FIG. 1

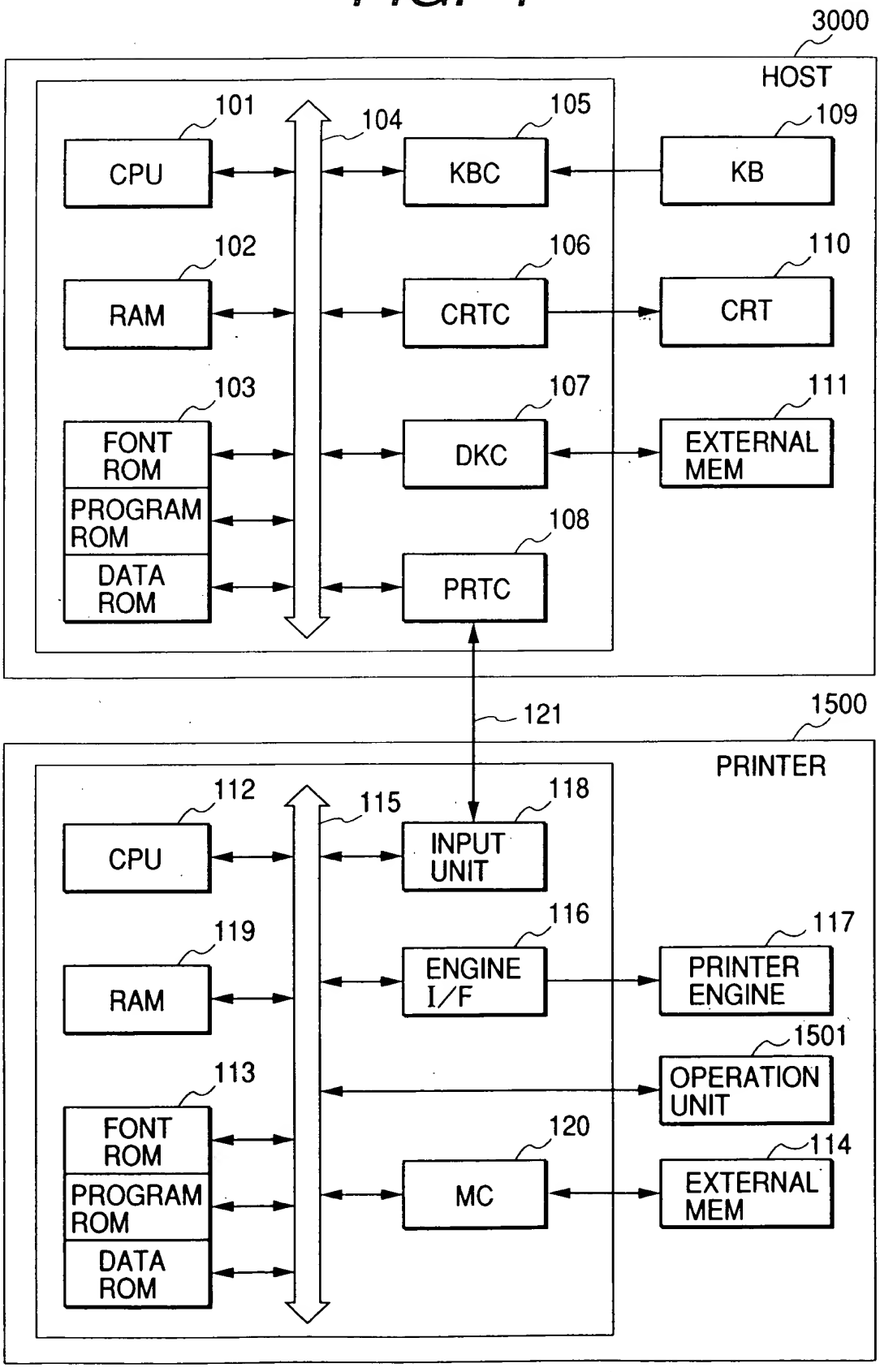
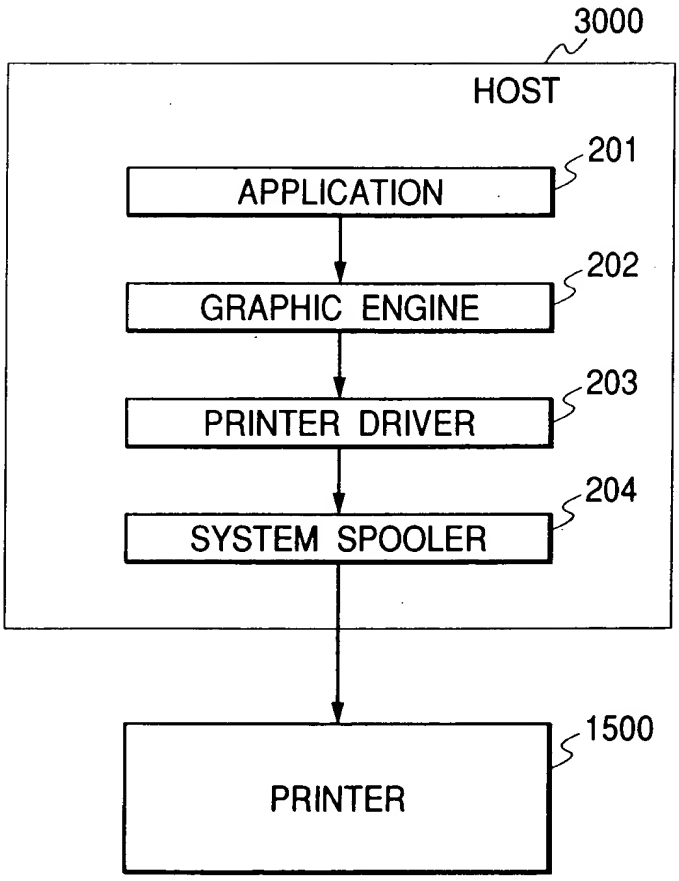
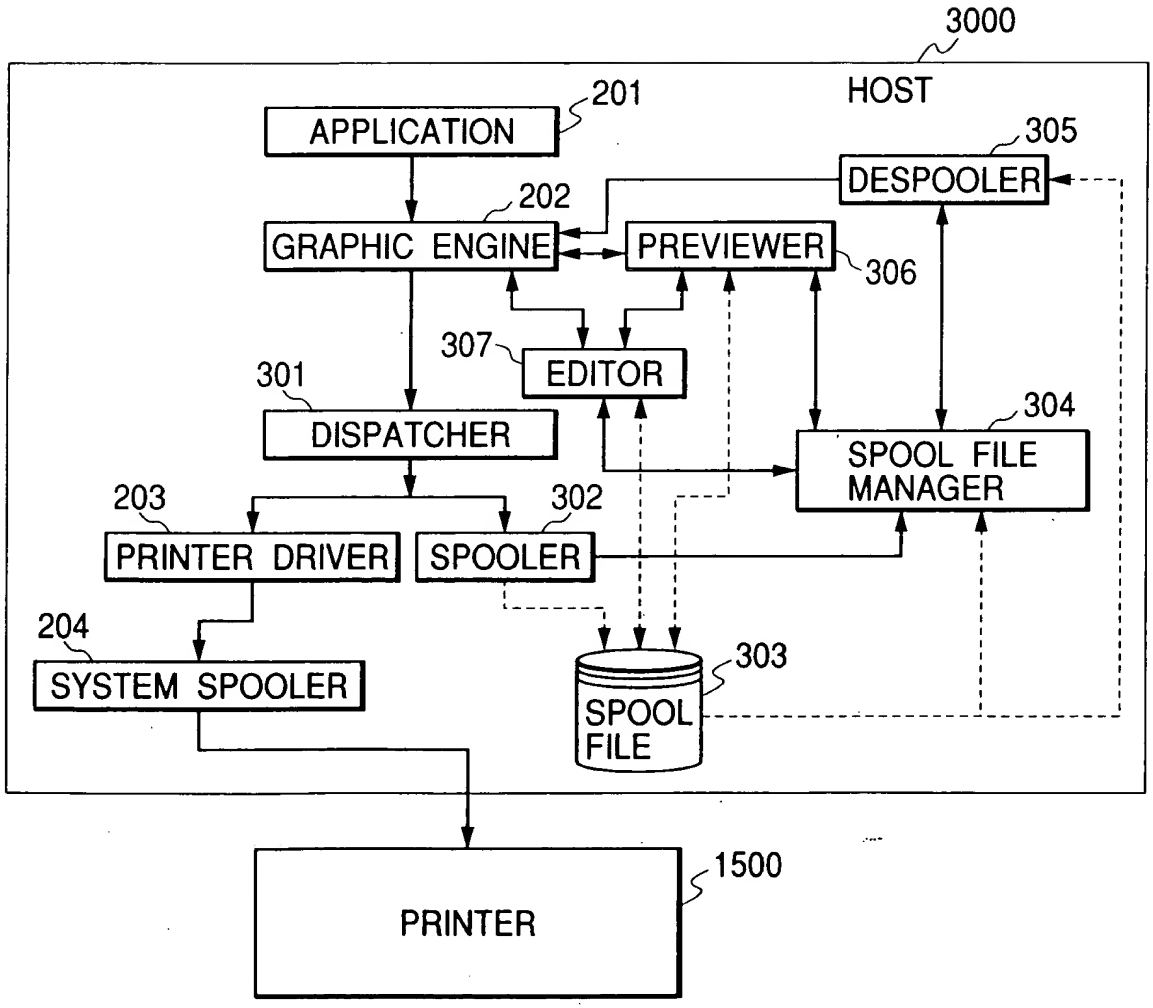

3000
HOST
101
CPU
104
105
KBC
109
KB
102
RAM
106
CRTC
110
CRT
103
FONT ROM
PROGRAM ROM
DATA ROM
107
DKC
111
EXTERNAL MEM
108
PRTC
121
1500
PRINTER
112
CPU
115
118
INPUT UNIT
116
ENGINE I/F
117
PRINTER ENGINE
119
RAM
1501
OPERATION UNIT
113
FONT ROM
PROGRAM ROM
DATA ROM
120
MC
114
EXTERNAL MEM

FIG. 2




0056036 - 0074

FIG. 3


3000
HOST
201
APPLICATION
305
DESPOOLER
202
GRAPHIC ENGINE
PREVIEWER
306
307
EDITOR
301
DISPATCHER
304
SPOOL FILE MANAGER
203
302
PRINTER DRIVER
SPOOLER
204
303
SYSTEM SPOOLER
SPOOL FILE
1500
PRINTER

0016018-000560

FIG. 4

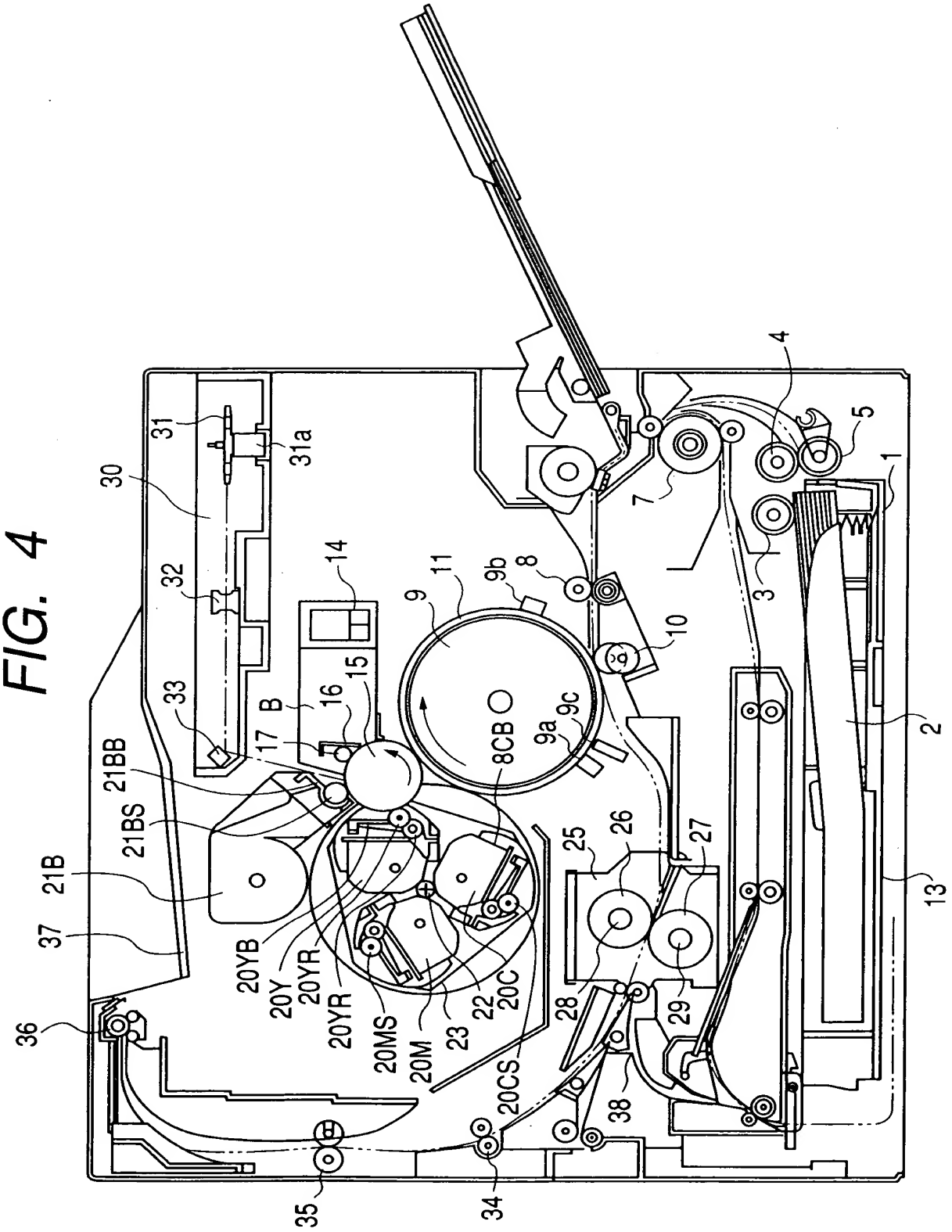


FIG. 5

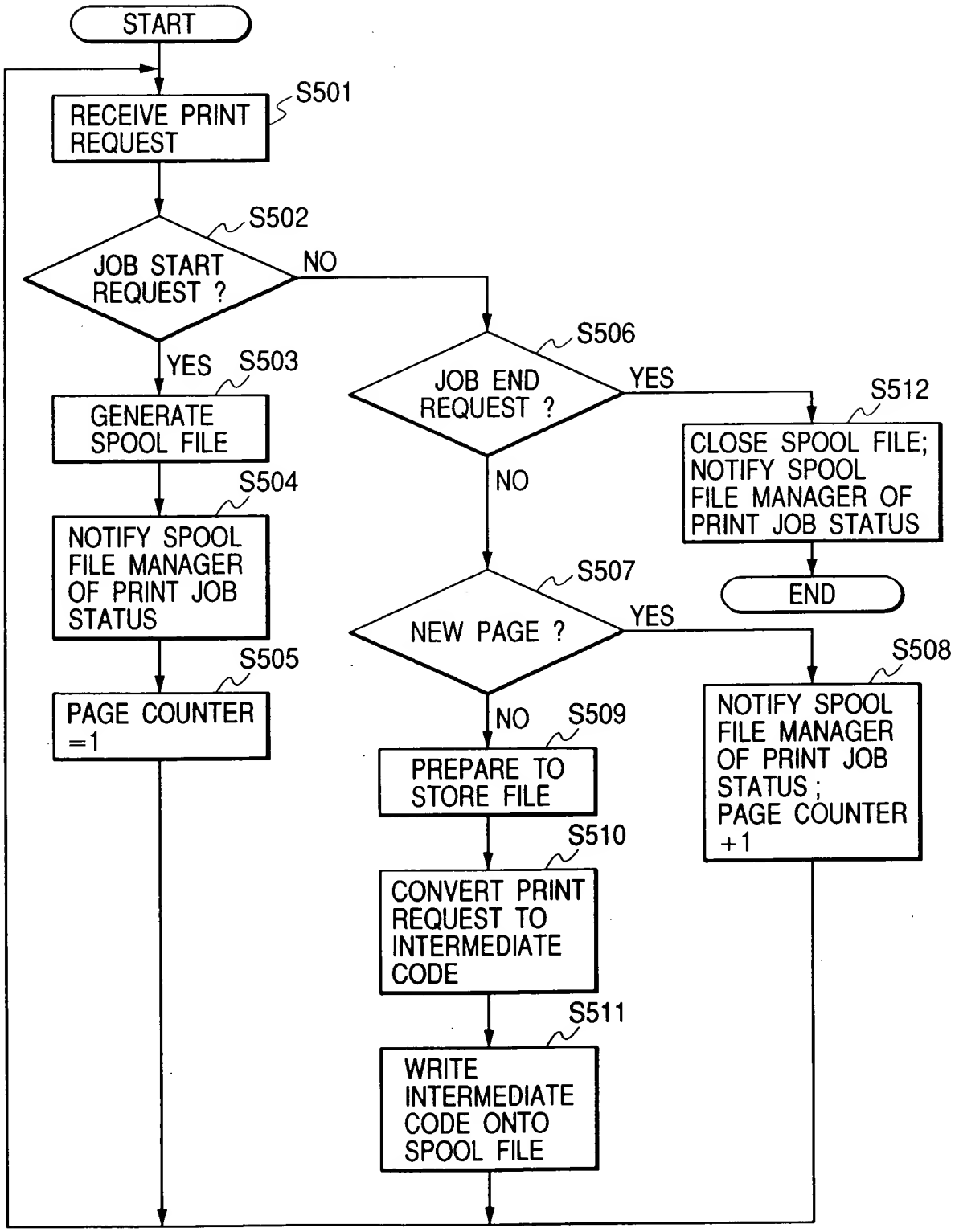

START
RECEIVE PRINT REQUEST
S501
JOB START REQUEST ?
S502
NO
YES
GENERATE SPOOL FILE
S503
NOTIFY SPOOL FILE MANAGER OF PRINT JOB STATUS
S504
PAGE COUNTER =1
S505
JOB END REQUEST ?
S506
YES
NO
CLOSE SPOOL FILE; NOTIFY SPOOL FILE MANAGER OF PRINT JOB STATUS
S512
END
NEW PAGE ?
S507
YES
NO
NOTIFY SPOOL FILE MANAGER OF PRINT JOB STATUS ; PAGE COUNTER +1
S508
PREPARE TO STORE FILE
S509
CONVERT PRINT REQUEST TO INTERMEDIATE CODE
S510
WRITE INTERMEDIATE CODE ONTO SPOOL FILE
S511

FIG. 6

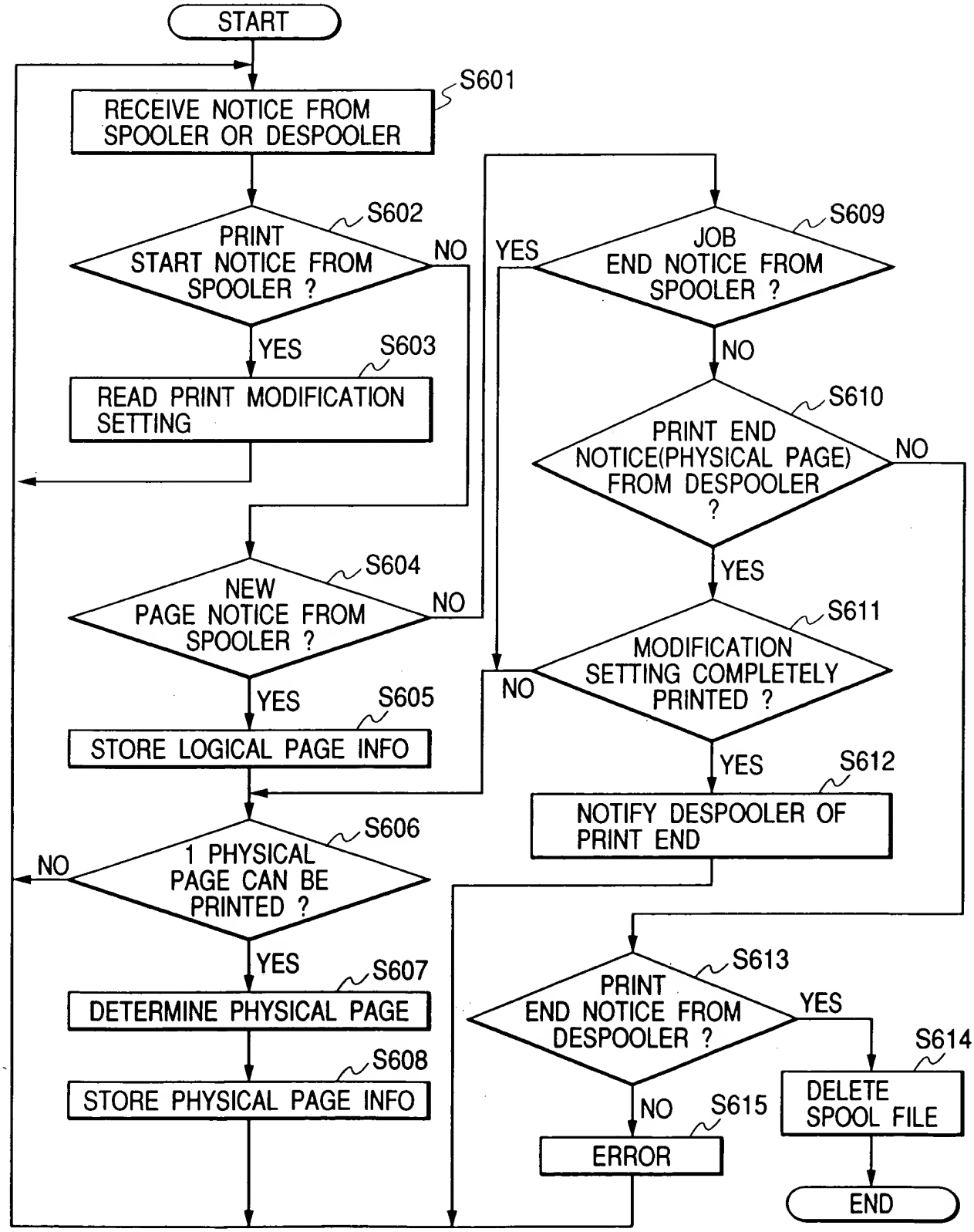

START
S601
RECEIVE NOTICE FROM SPOOLER OR DESPOOLER
S602
PRINT START NOTICE FROM SPOOLER ?
NO
YES
S603
READ PRINT MODIFICATION SETTING
S604
NEW PAGE NOTICE FROM SPOOLER ?
NO
YES
S605
STORE LOGICAL PAGE INFO
S606
1 PHYSICAL PAGE CAN BE PRINTED ?
NO
YES
S607
DETERMINE PHYSICAL PAGE
S608
STORE PHYSICAL PAGE INFO
S609
JOB END NOTICE FROM SPOOLER ?
YES
NO
S610
PRINT END NOTICE(PHYSICAL PAGE) FROM DESPOOLER ?
NO
YES
S611
MODIFICATION SETTING COMPLETELY PRINTED ?
NO
YES
S612
NOTIFY DESPOOLER OF PRINT END
S613
PRINT END NOTICE FROM DESPOOLER ?
YES
NO
S614
DELETE SPOOL FILE
S615
ERROR
END

FIG. 7

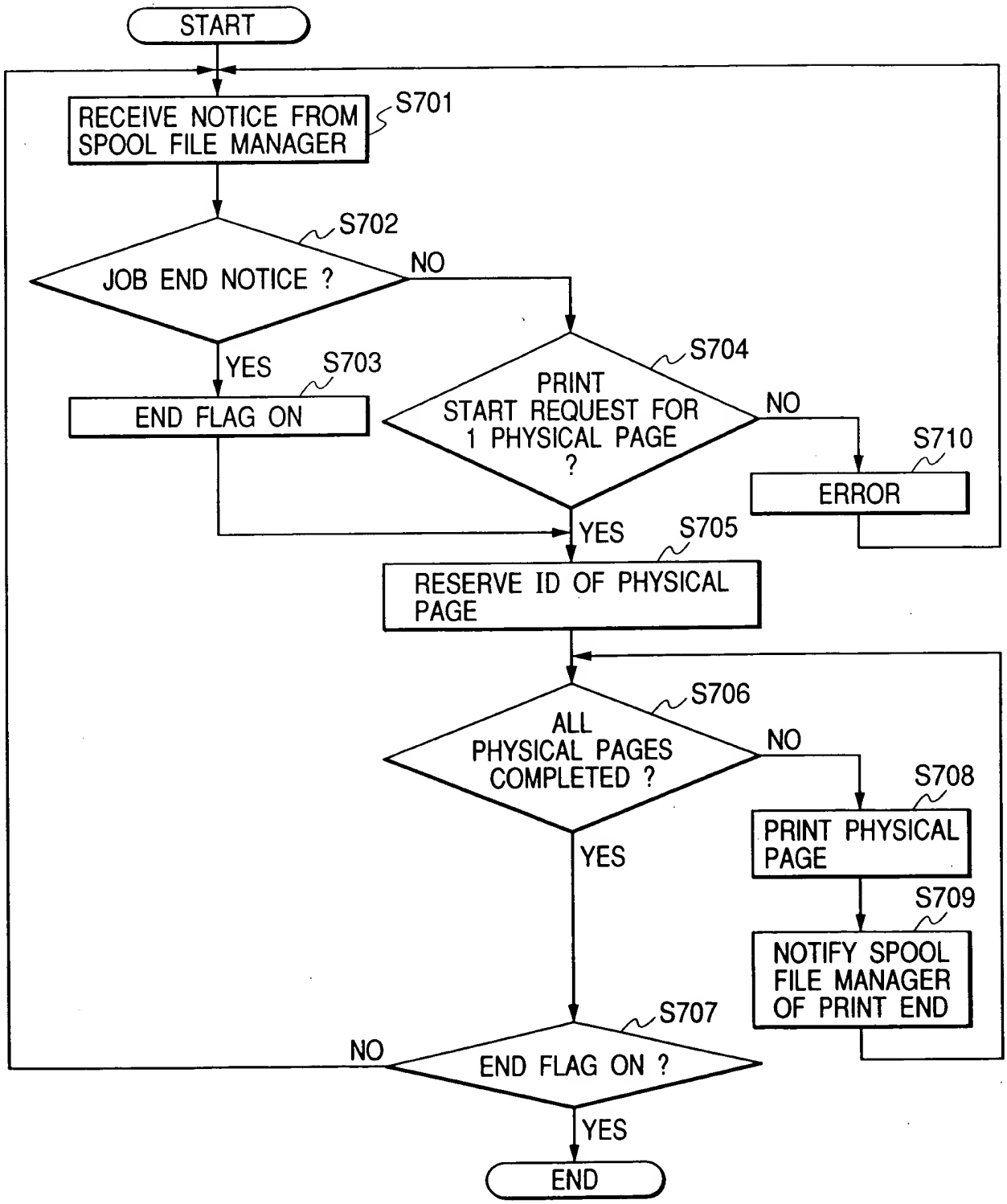

START
RECEIVE NOTICE FROM SPOOL FILE MANAGER
S701
JOB END NOTICE ?
S702
NO
YES
END FLAG ON
S703
PRINT START REQUEST FOR 1 PHYSICAL PAGE ?
S704
NO
ERROR
S710
YES
RESERVE ID OF PHYSICAL PAGE
S705
ALL PHYSICAL PAGES COMPLETED ?
S706
NO
PRINT PHYSICAL PAGE
S708
NOTIFY SPOOL FILE MANAGER OF PRINT END
S709
YES
END FLAG ON ?
S707
NO
YES
END

FIG. 8

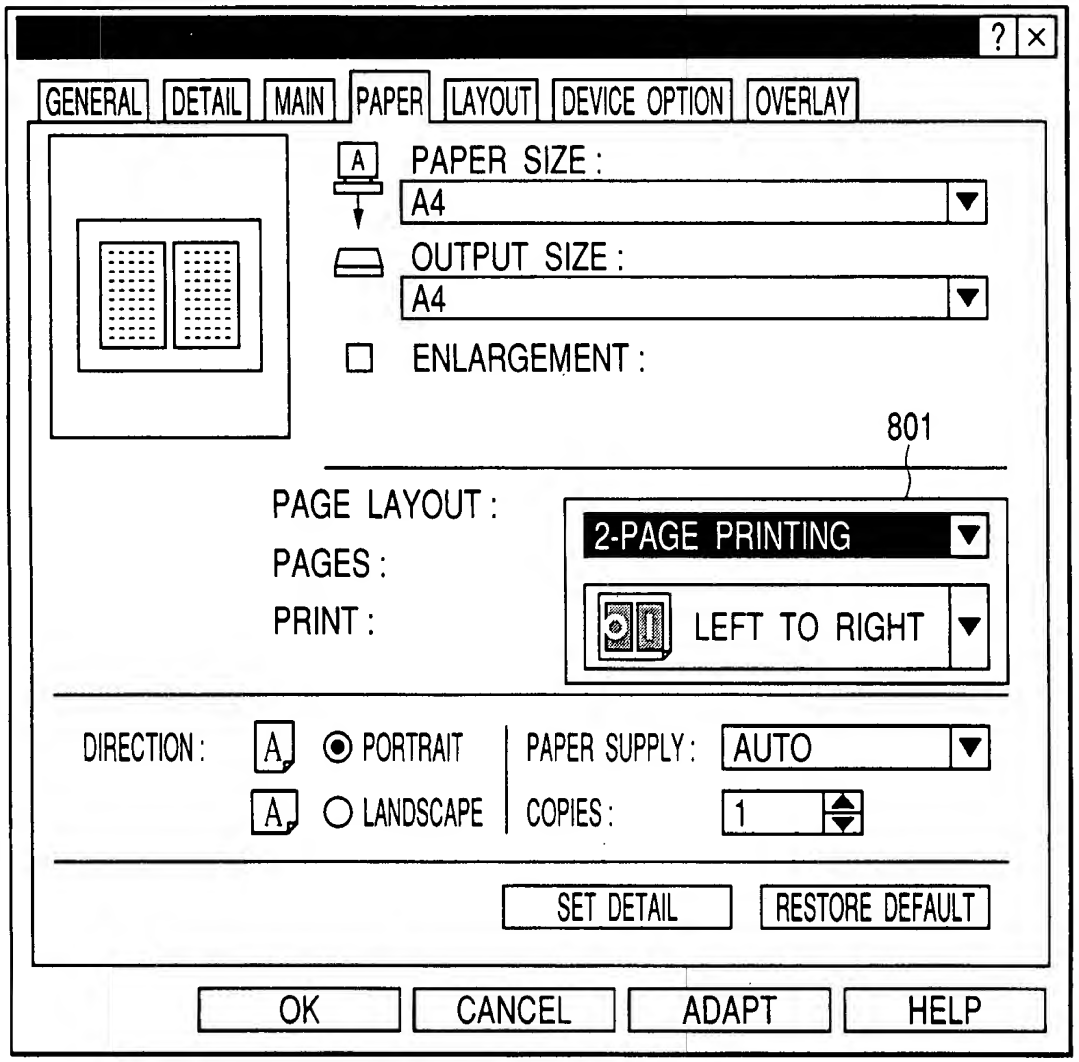

GENERAL
DETAIL
MAIN
PAPER
LAYOUT
DEVICE OPTION
OVERLAY
PAPER SIZE :
A4
OUTPUT SIZE :
A4
ENLARGEMENT :
801
PAGE LAYOUT :
PAGES :
PRINT :
2-PAGE PRINTING
LEFT TO RIGHT
DIRECTION :
PORTRAIT
LANDSCAPE
PAPER SUPPLY :
AUTO
COPIES :
1
SET DETAIL
RESTORE DEFAULT
OK
CANCEL
ADAPT
HELP

FIG. 9

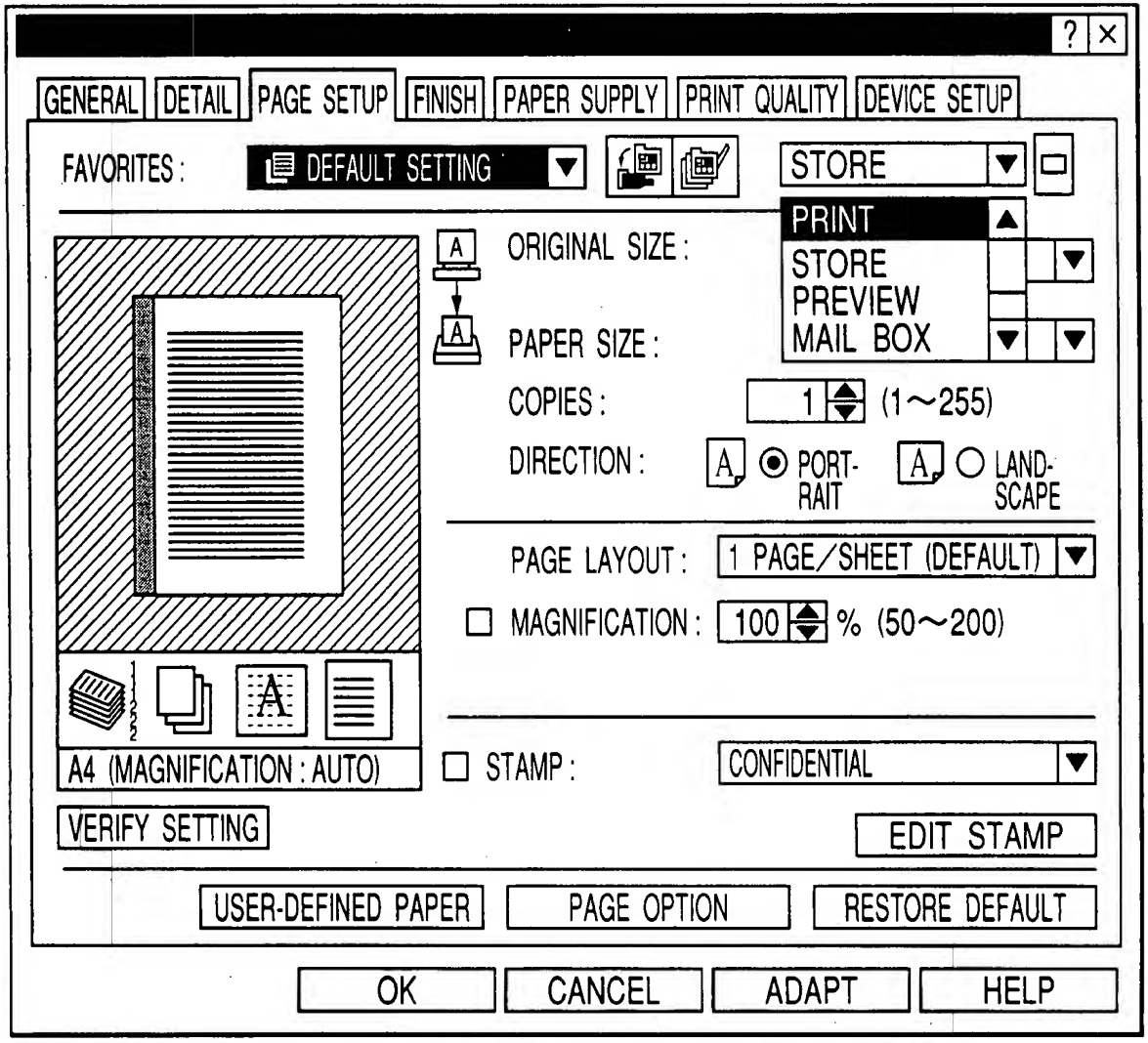

GENERAL
DETAIL
PAGE SETUP
FINISH
PAPER SUPPLY
PRINT QUALITY
DEVICE SETUP
FAVORITES :
DEFAULT SETTING
STORE
PRINT
STORE
PREVIEW
MAIL BOX
ORIGINAL SIZE :
PAPER SIZE :
COPIES :
1
(1～255)
DIRECTION :
PORT-RAIT
LAND-SCAPE
PAGE LAYOUT :
1 PAGE/SHEET (DEFAULT)
MAGNIFICATION :
100
% (50～200)
A4 (MAGNIFICATION : AUTO)
STAMP :
CONFIDENTIAL
VERIFY SETTING
EDIT STAMP
USER-DEFINED PAPER
PAGE OPTION
RESTORE DEFAULT
OK
CANCEL
ADAPT
HELP

FIG. 10

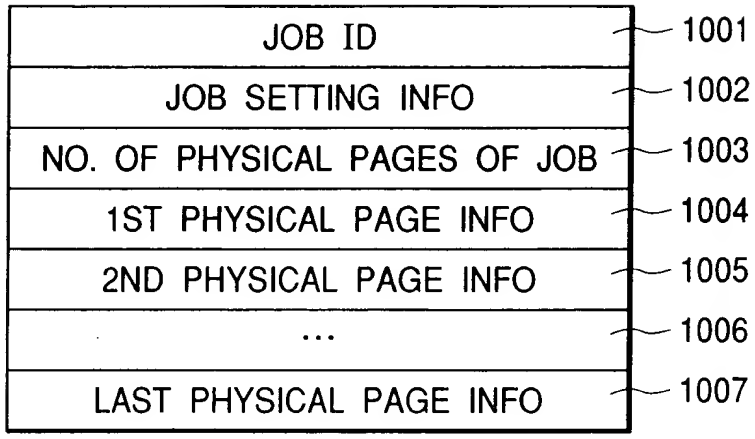

JOB ID
1001
JOB SETTING INFO
1002
NO. OF PHYSICAL PAGES OF JOB
1003
1ST PHYSICAL PAGE INFO
1004
2ND PHYSICAL PAGE INFO
1005
...
1006
LAST PHYSICAL PAGE INFO
1007

FIG. 11

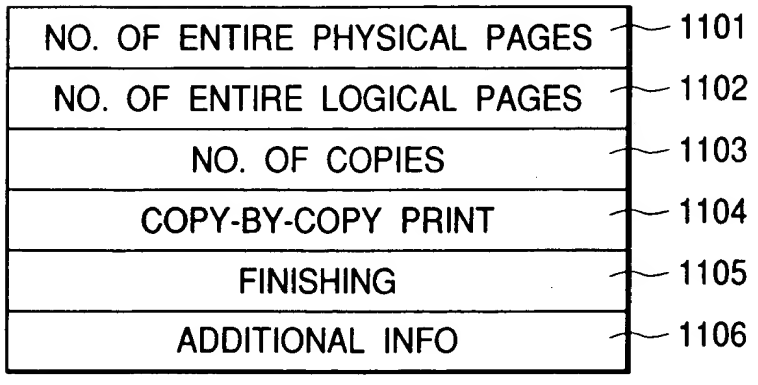

NO. OF ENTIRE PHYSICAL PAGES
1101
NO. OF ENTIRE LOGICAL PAGES
1102
NO. OF COPIES
1103
COPY-BY-COPY PRINT
1104
FINISHING
1105
ADDITIONAL INFO
1106

FIG. 12

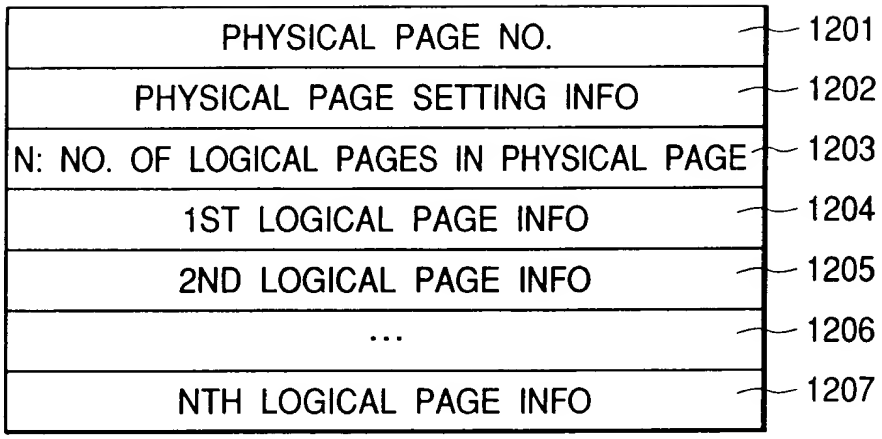



FIG. 13

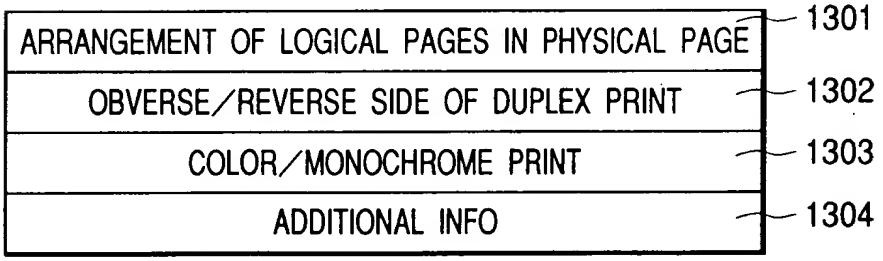



FIG. 14

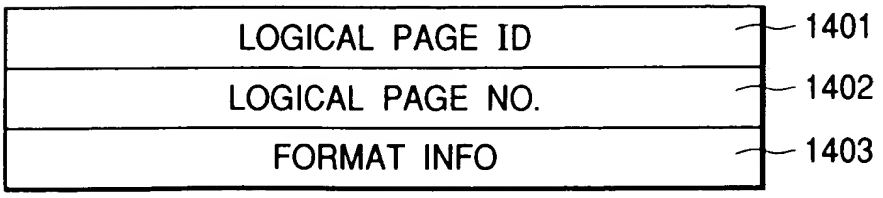


FIG. 15

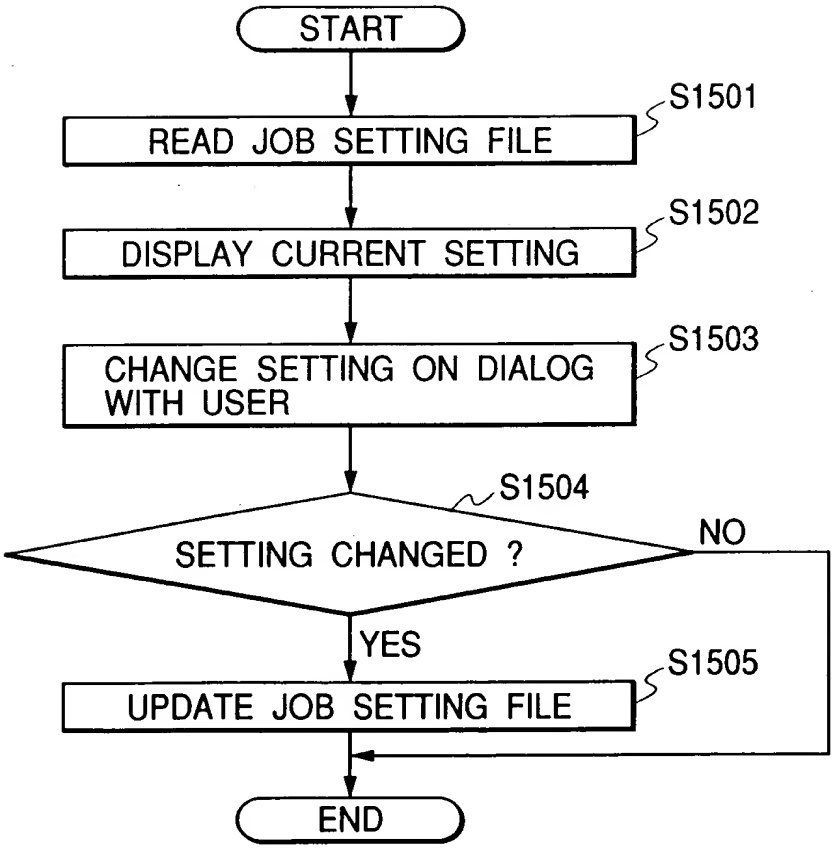

START
READ JOB SETTING FILE
S1501
DISPLAY CURRENT SETTING
S1502
CHANGE SETTING ON DIALOG WITH USER
S1503
S1504
SETTING CHANGED ?
NO
YES
UPDATE JOB SETTING FILE
S1505
END

FIG. 16

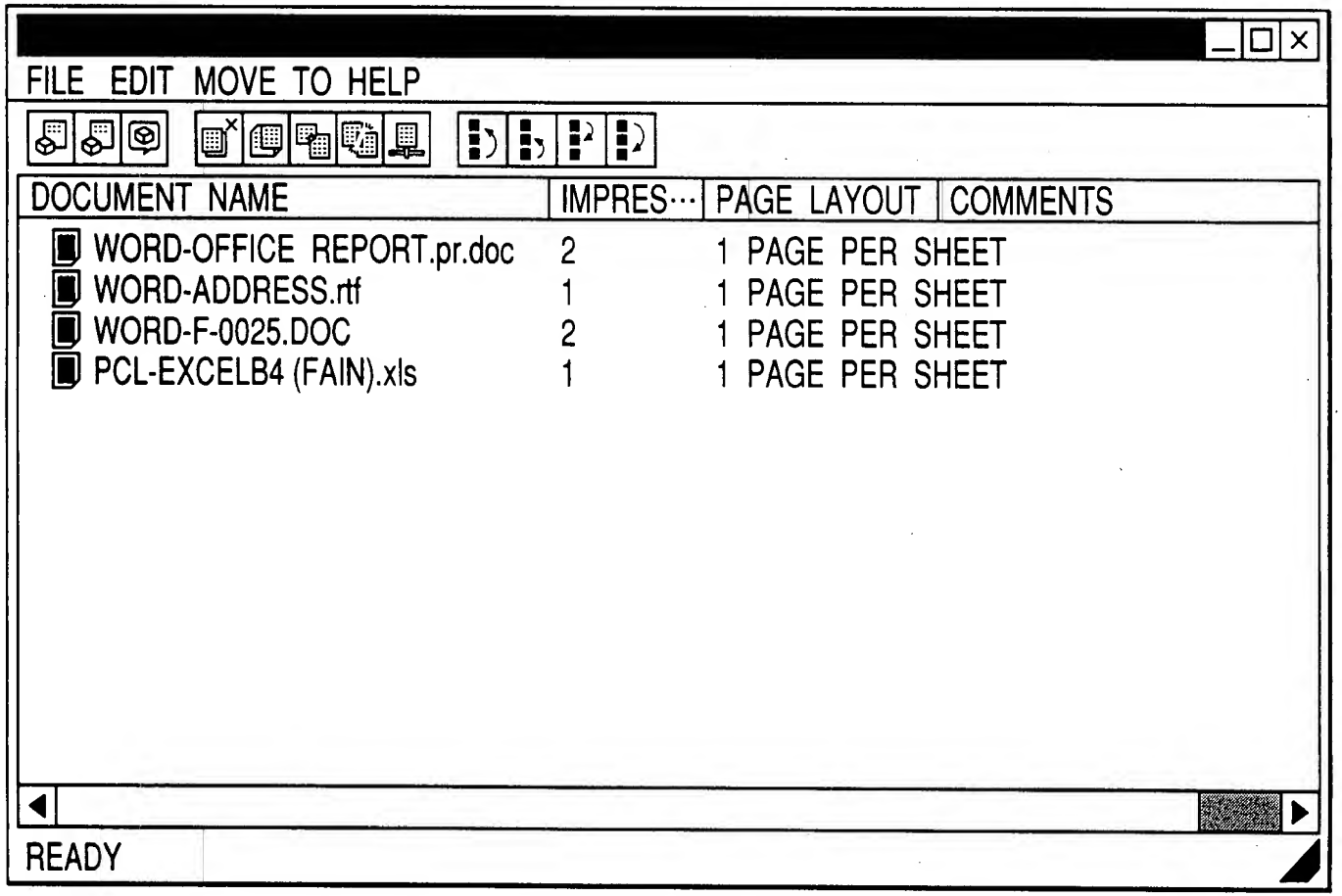

FILE EDIT MOVE TO HELP
DOCUMENT NAME
IMPRES···
PAGE LAYOUT
COMMENTS
WORD-OFFICE REPORT.pr.doc 2 1 PAGE PER SHEET
WORD-ADDRESS.rtf 1 1 PAGE PER SHEET
WORD-F-0025.DOC 2 1 PAGE PER SHEET
PCL-EXCELB4 (FAIN).xls 1 1 PAGE PER SHEET
READY

FIG. 17

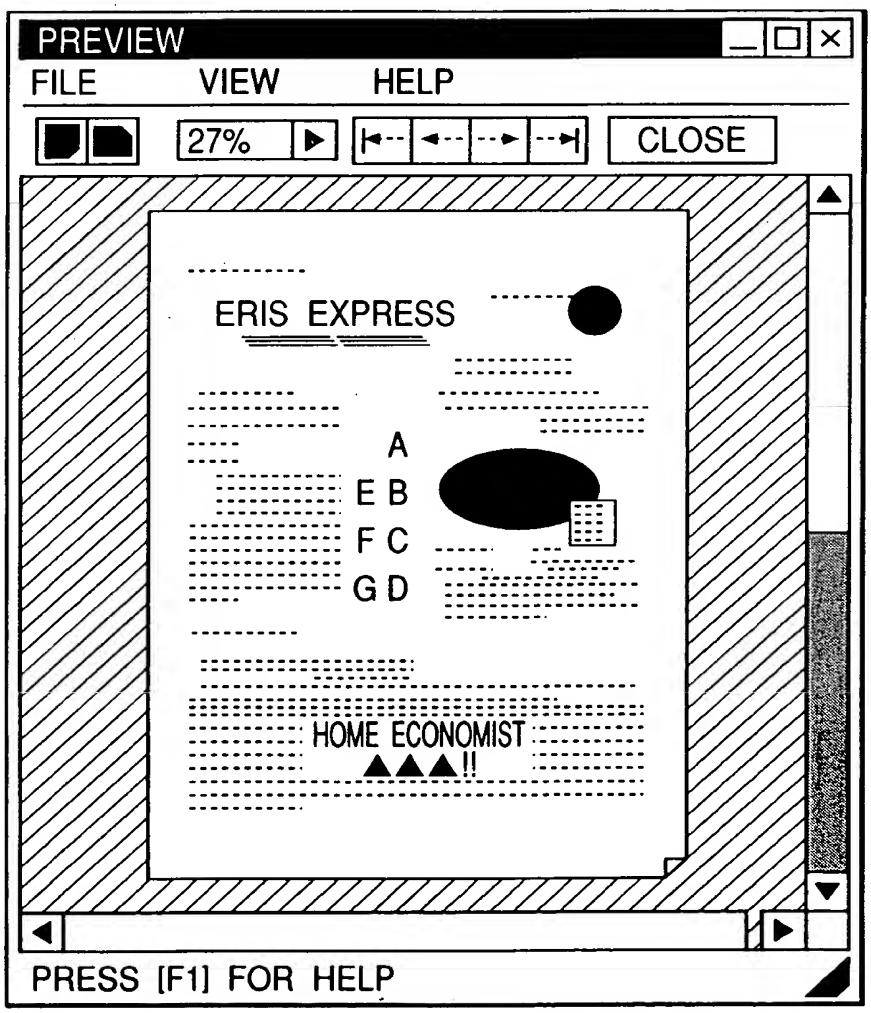

PREVIEW
FILE
VIEW
HELP
27%
CLOSE
ERIS EXPRESS
A
E B
F C
G D
HOME ECONOMIST
▲▲▲!!
PRESS [F1] FOR HELP

FIG. 18

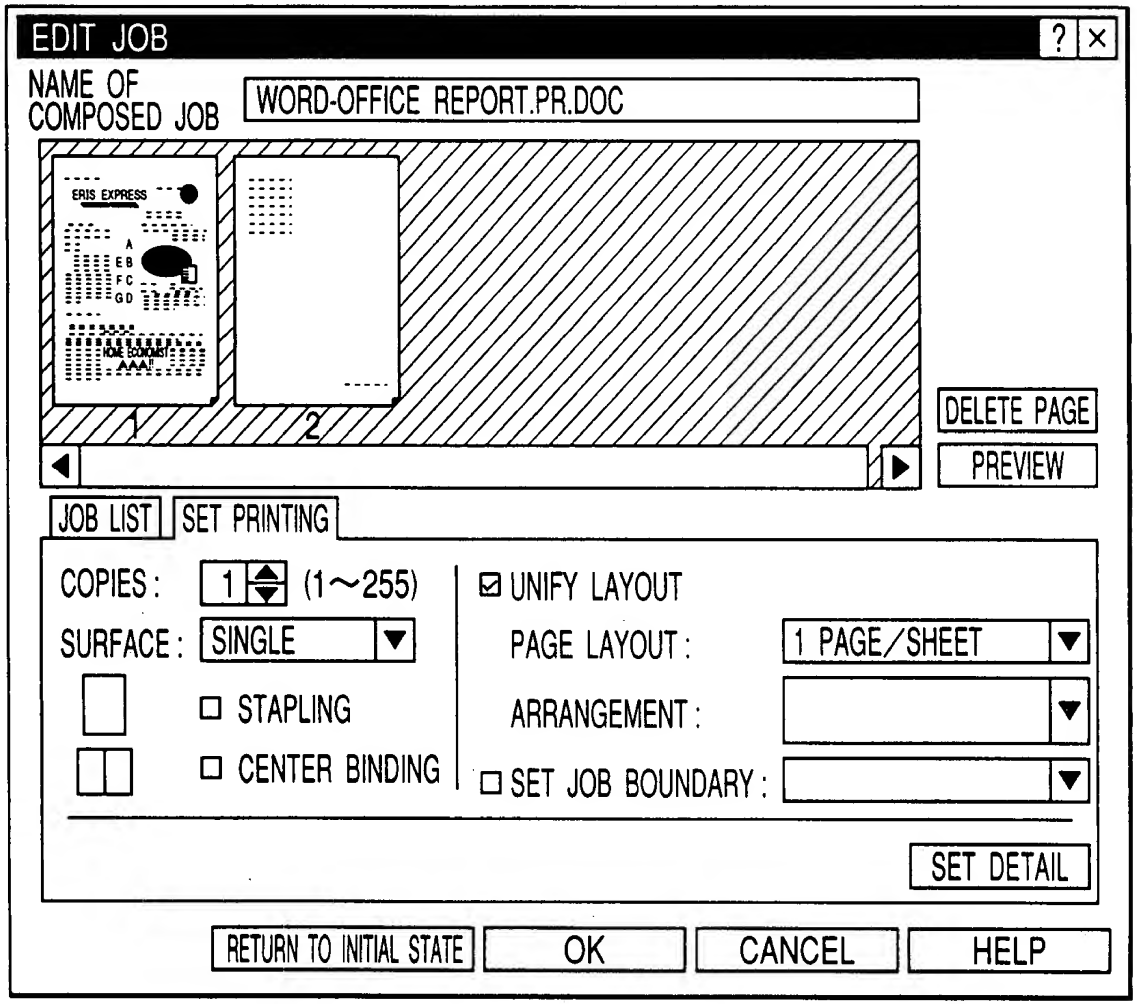

EDIT JOB
NAME OF COMPOSED JOB
WORD-OFFICE REPORT.PR.DOC
ERIS EXPRESS
1
2
DELETE PAGE
PREVIEW
JOB LIST
SET PRINTING
COPIES :
1
(1～255)
SURFACE :
SINGLE
STAPLING
CENTER BINDING
UNIFY LAYOUT
PAGE LAYOUT :
1 PAGE/SHEET
ARRANGEMENT :
SET JOB BOUNDARY :
SET DETAIL
RETURN TO INITIAL STATE
OK
CANCEL
HELP

FIG. 19

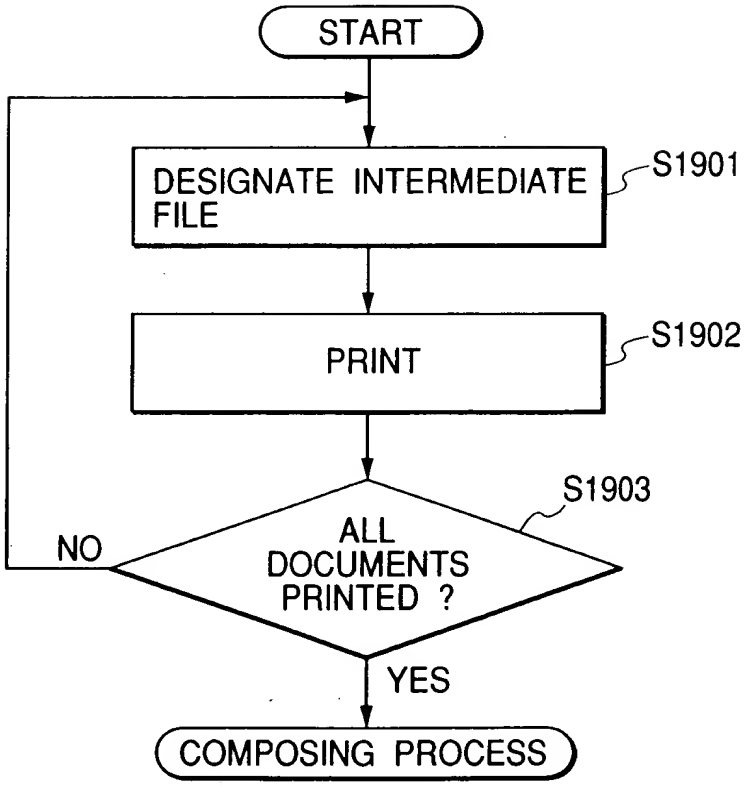
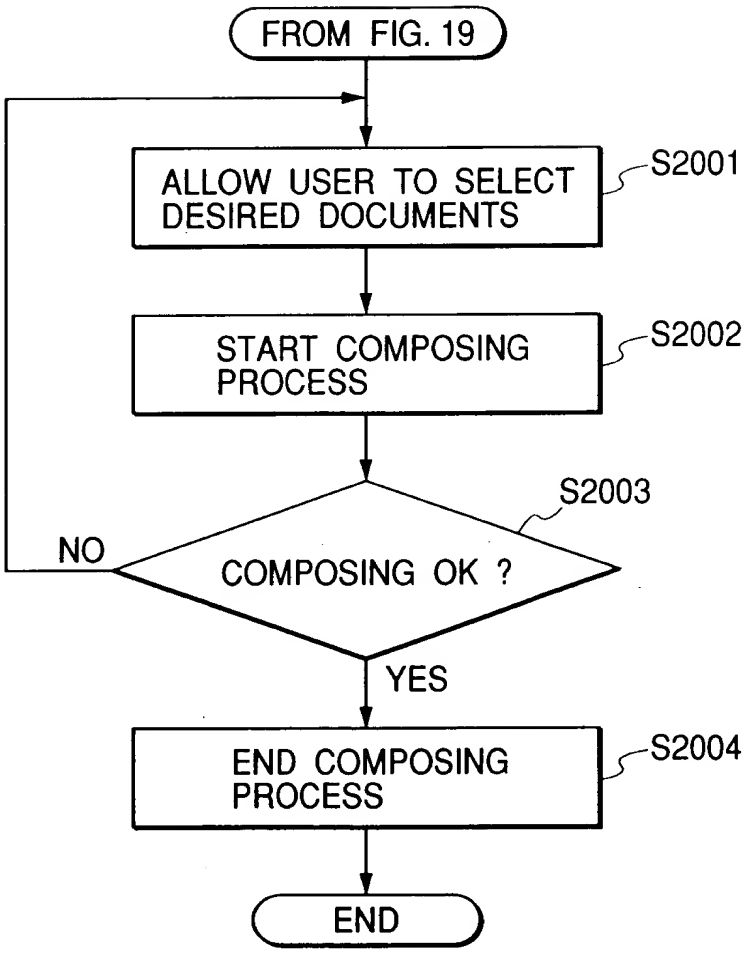
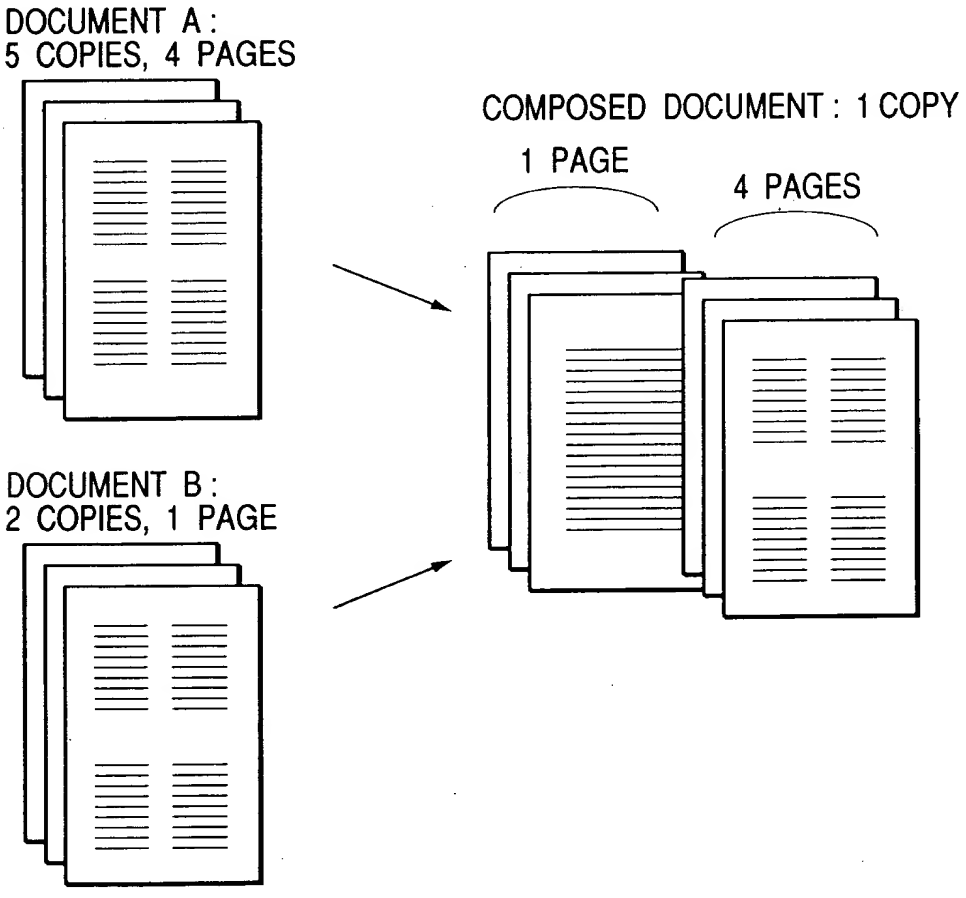

START
DESIGNATE INTERMEDIATE FILE
S1901
PRINT
S1902
S1903
ALL DOCUMENTS PRINTED ?
NO
YES
COMPOSING PROCESS

FIG. 20




EP 1 703 384 A2

FIG. 21




EP 1 703 369 A2

FIG. 22

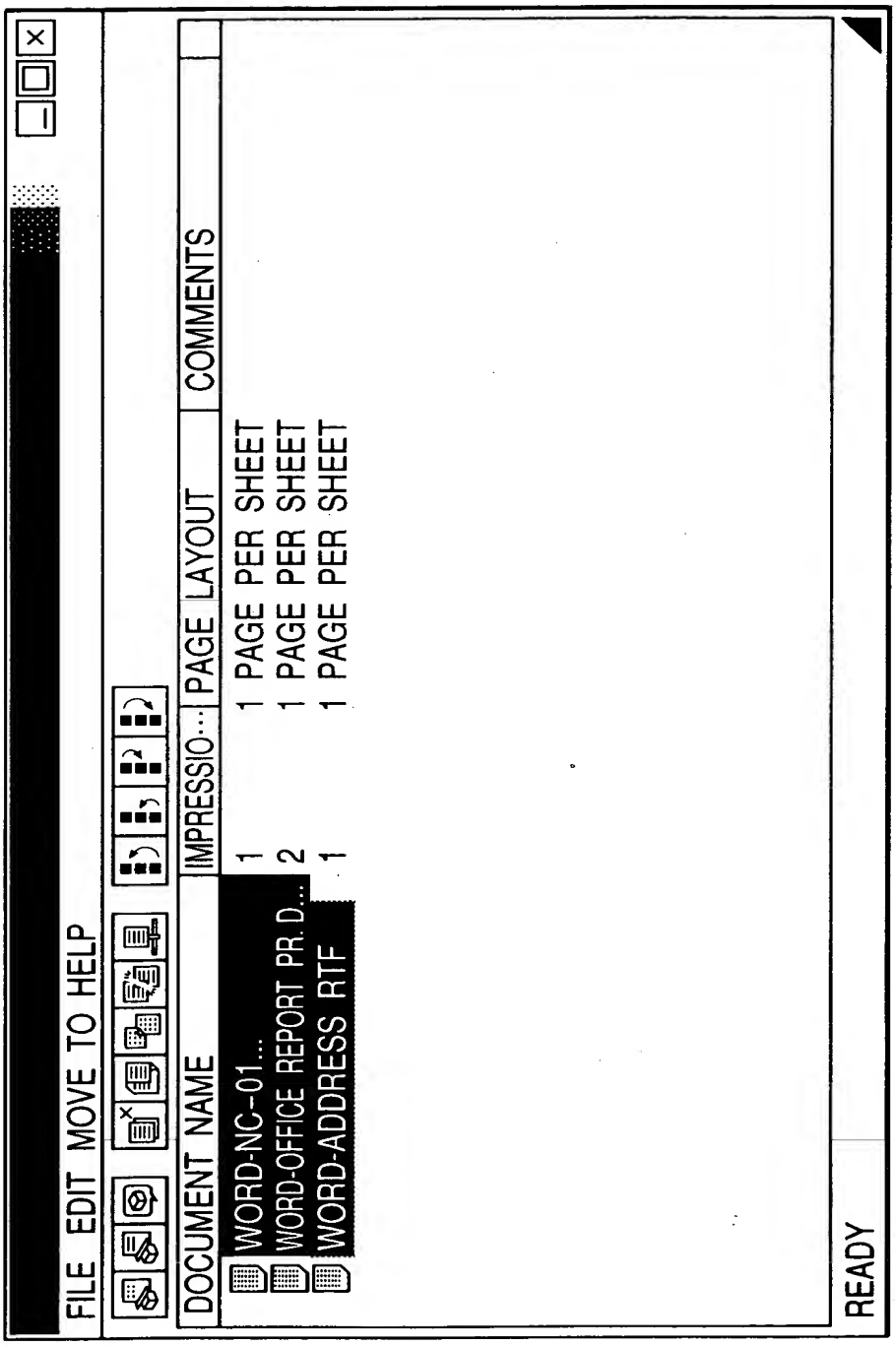
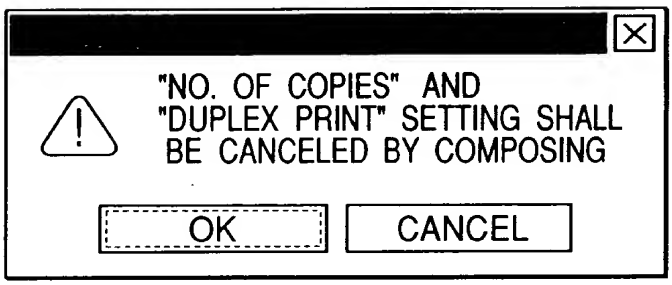
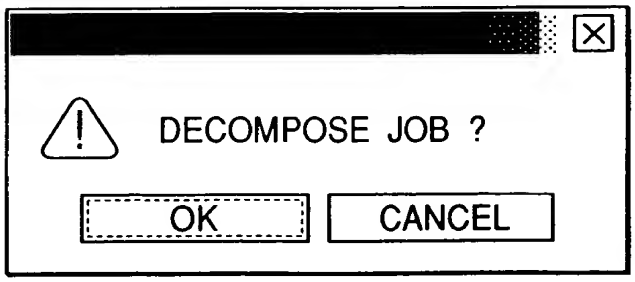

FILE EDIT MOVE TO HELP
DOCUMENT NAME
IMPRESSIO...
PAGE LAYOUT
COMMENTS
WORD-NC-01...
1
1 PAGE PER SHEET
WORD-OFFICE REPORT PR. D...
2
1 PAGE PER SHEET
WORD-ADDRESS RTF
1
1 PAGE PER SHEET
READY

FIG. 23



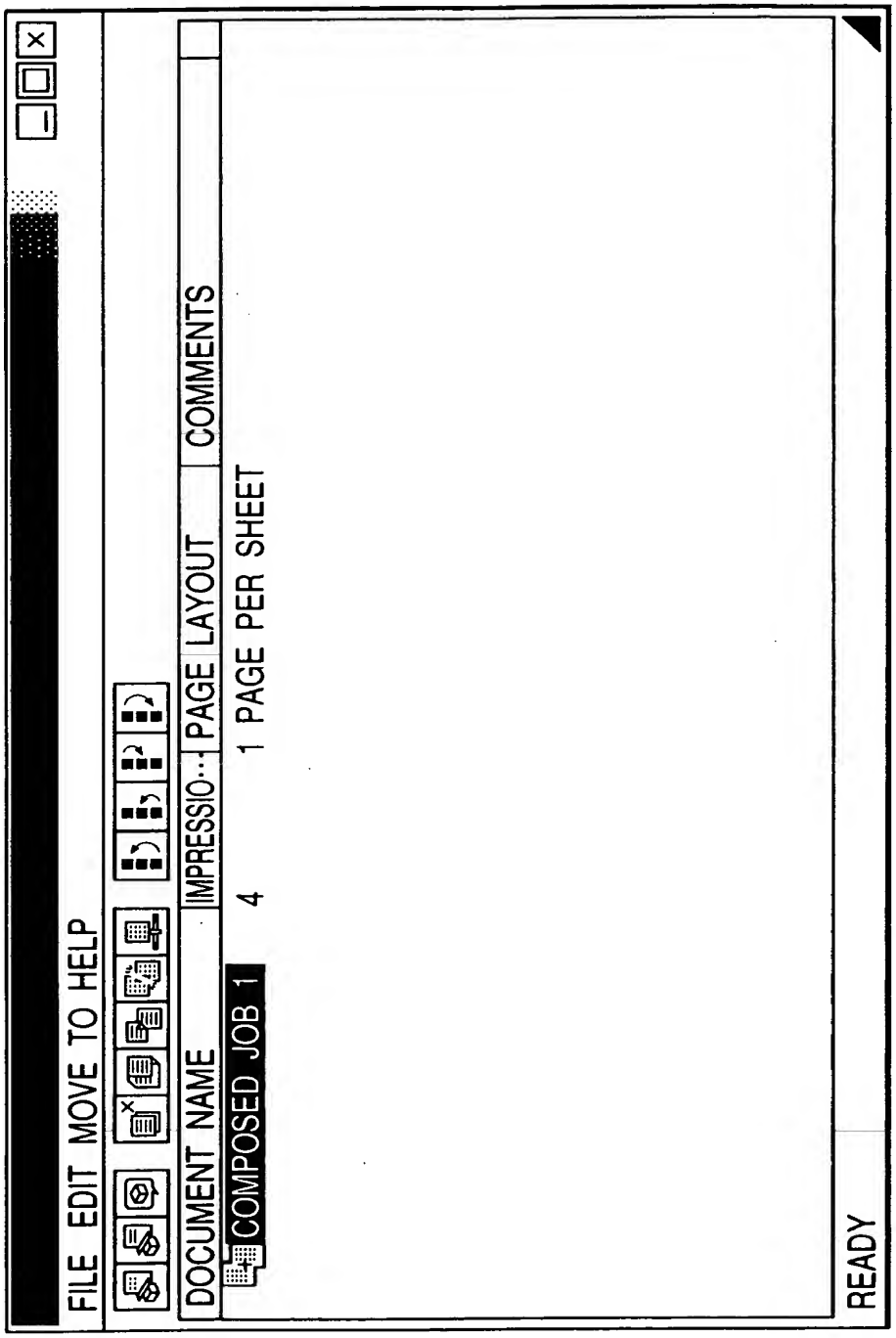

Document: 5999990

FIG. 25



0015015 "6865960

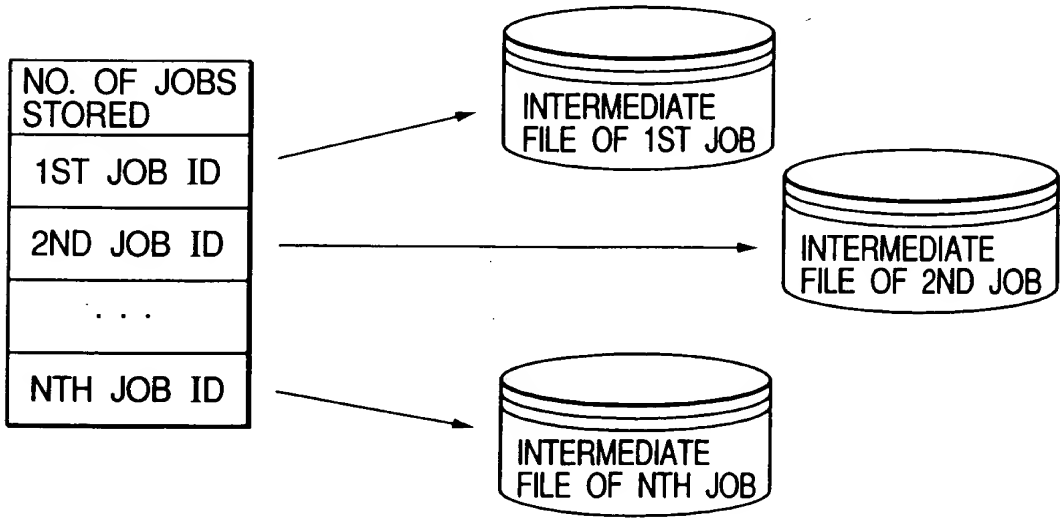
FIG. 24



# FIG. 26

| SETTING | EXAMPLE |
|---|---|
| 1 FOR 1 COMPOSED JOB | NO. OF COPIES, STAPLING, ... |
| SEVERAL IN MIXTURE FOR 1 COMPOSED JOB | LAYOUT (N-UP), PAGE FRAME, WATER MARK, TERMINOLOGY, PAPER SUPPLY PORT |

# FIG. 27



0070T-6866960

FIG. 28

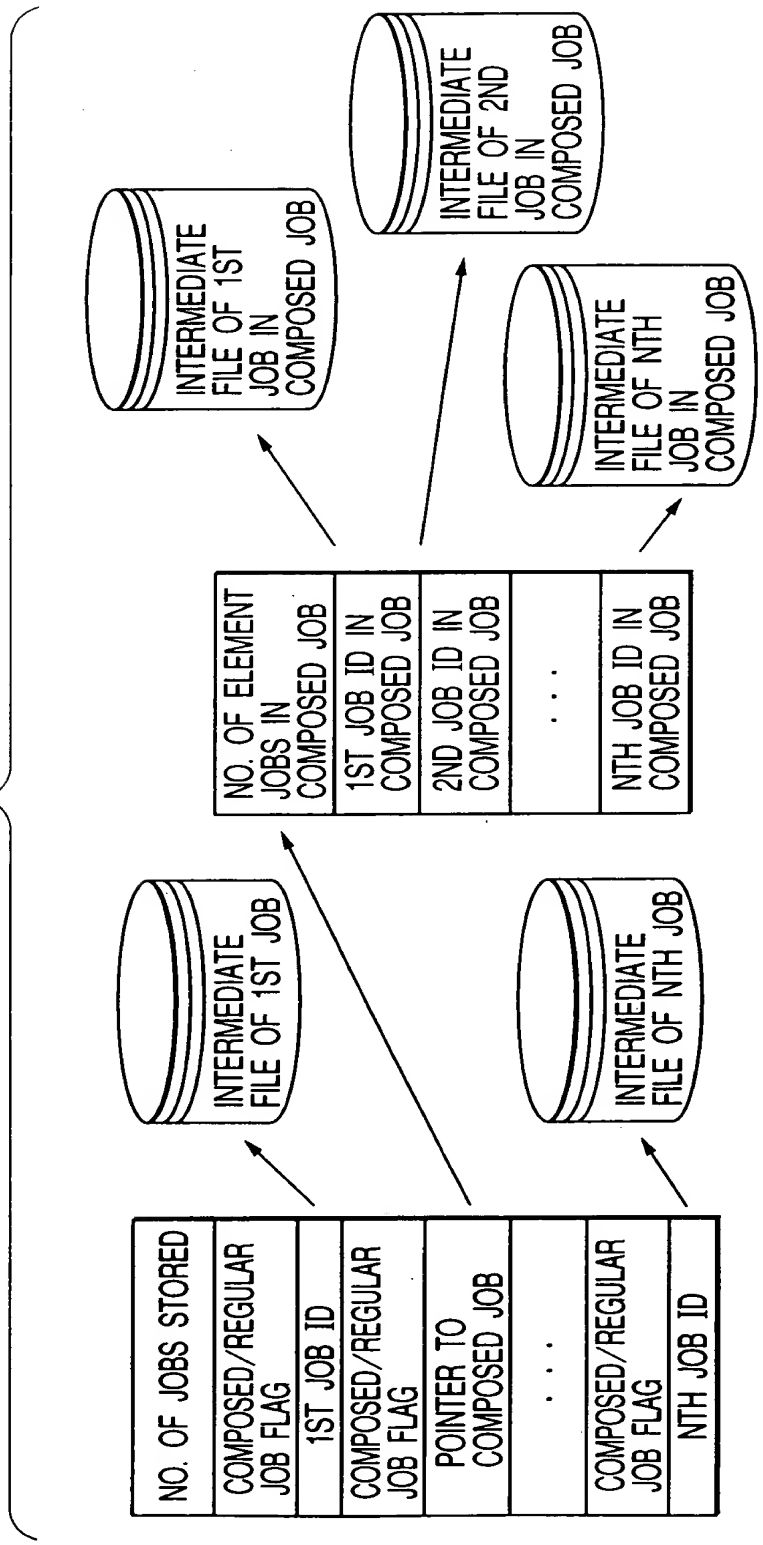


FIG. 29

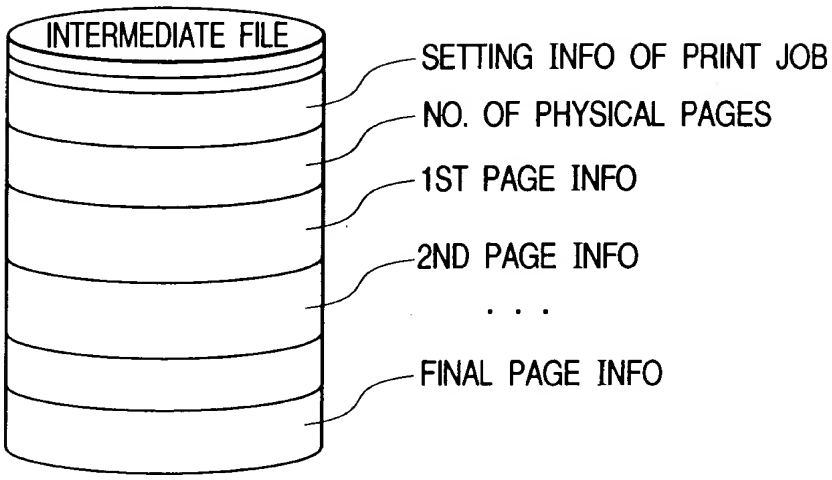



FIG. 31A

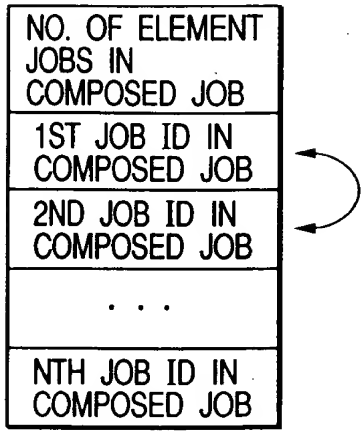



FIG. 31B

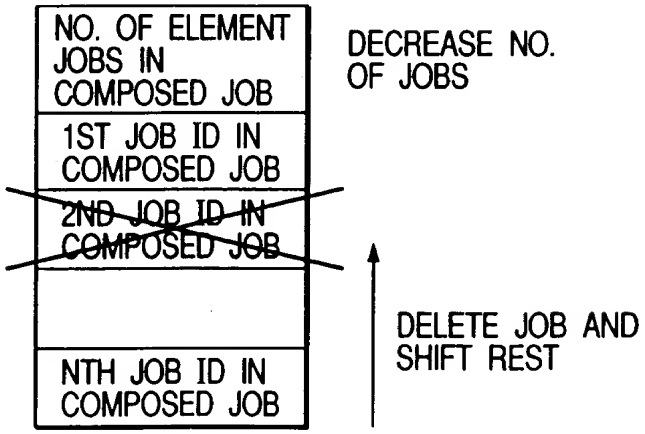
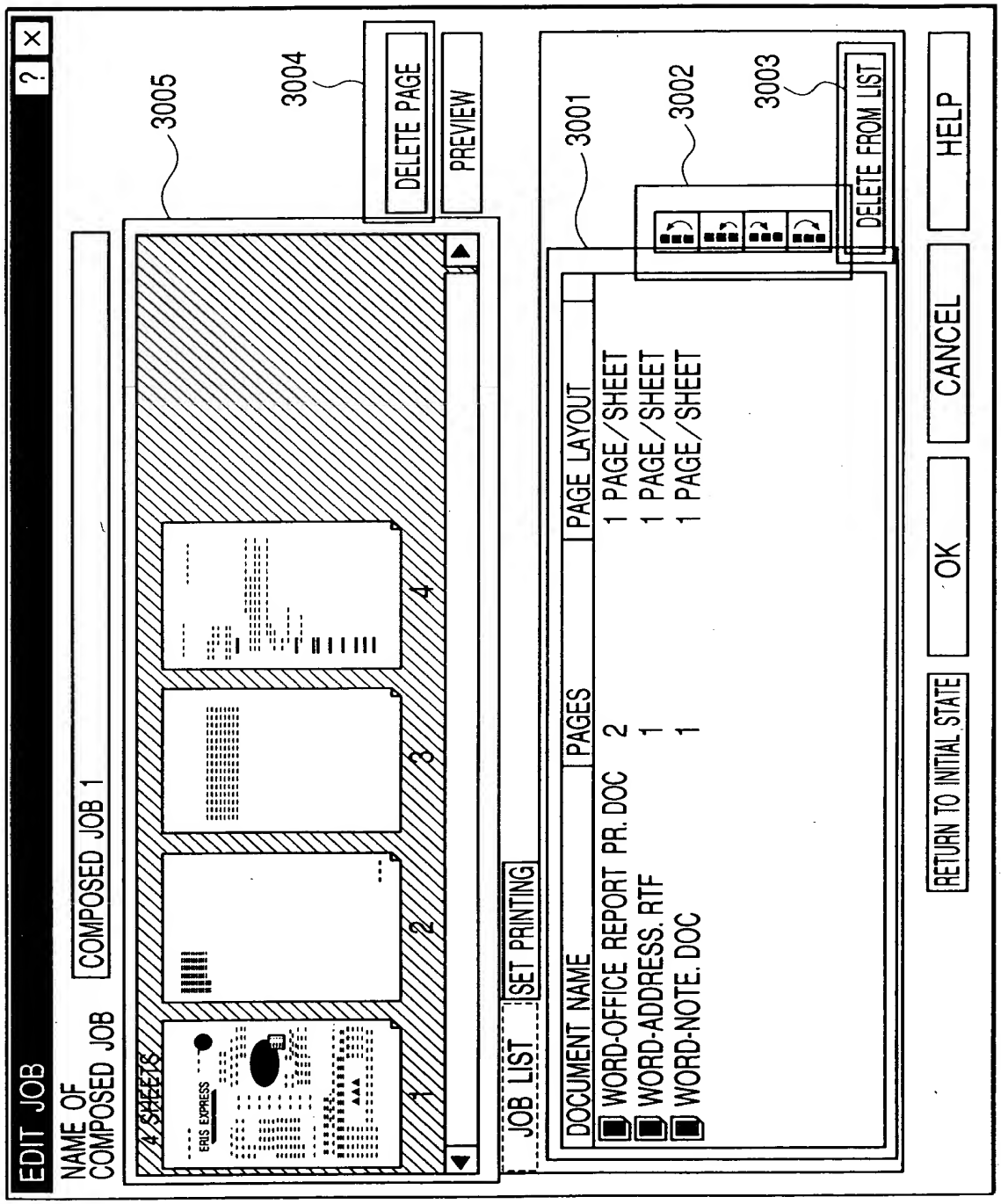


FIG. 30


EDIT JOB
NAME OF COMPOSED JOB
COMPOSED JOB 1
4 SHEETS
3005
3004
DELETE PAGE
PREVIEW
JOB LIST
SET PRINTING
3001
3002
3003
DOCUMENT NAME
PAGES
PAGE LAYOUT
WORD-OFFICE REPORT PR. DOC 2 1 PAGE/SHEET
WORD-ADDRESS. RTF 1 1 PAGE/SHEET
WORD-NOTE. DOC 1 1 PAGE/SHEET
DELETE FROM LIST
RETURN TO INITIAL STATE
OK
CANCEL
HELP

0015107 "68656950

FIG. 32

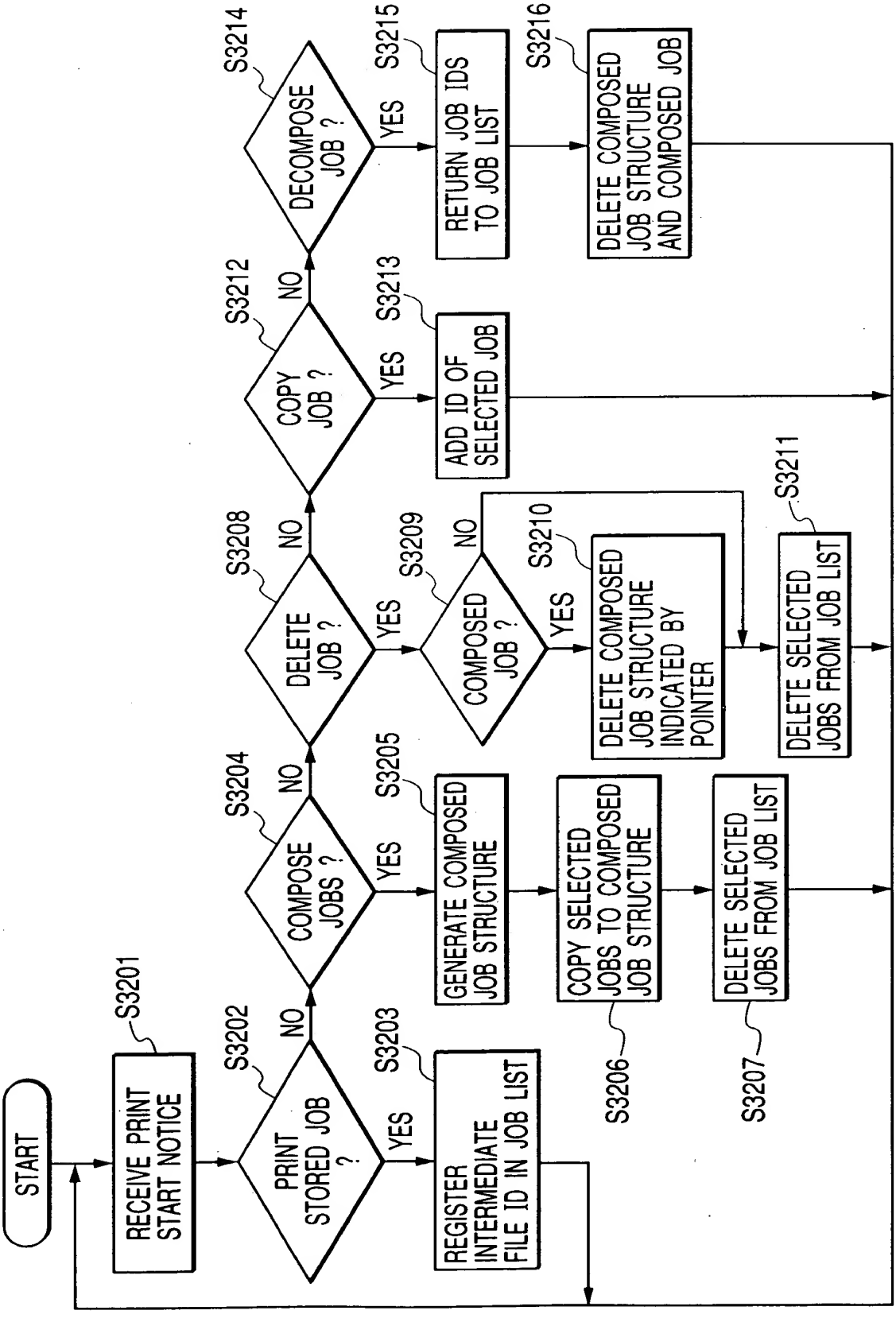


FIG. 33

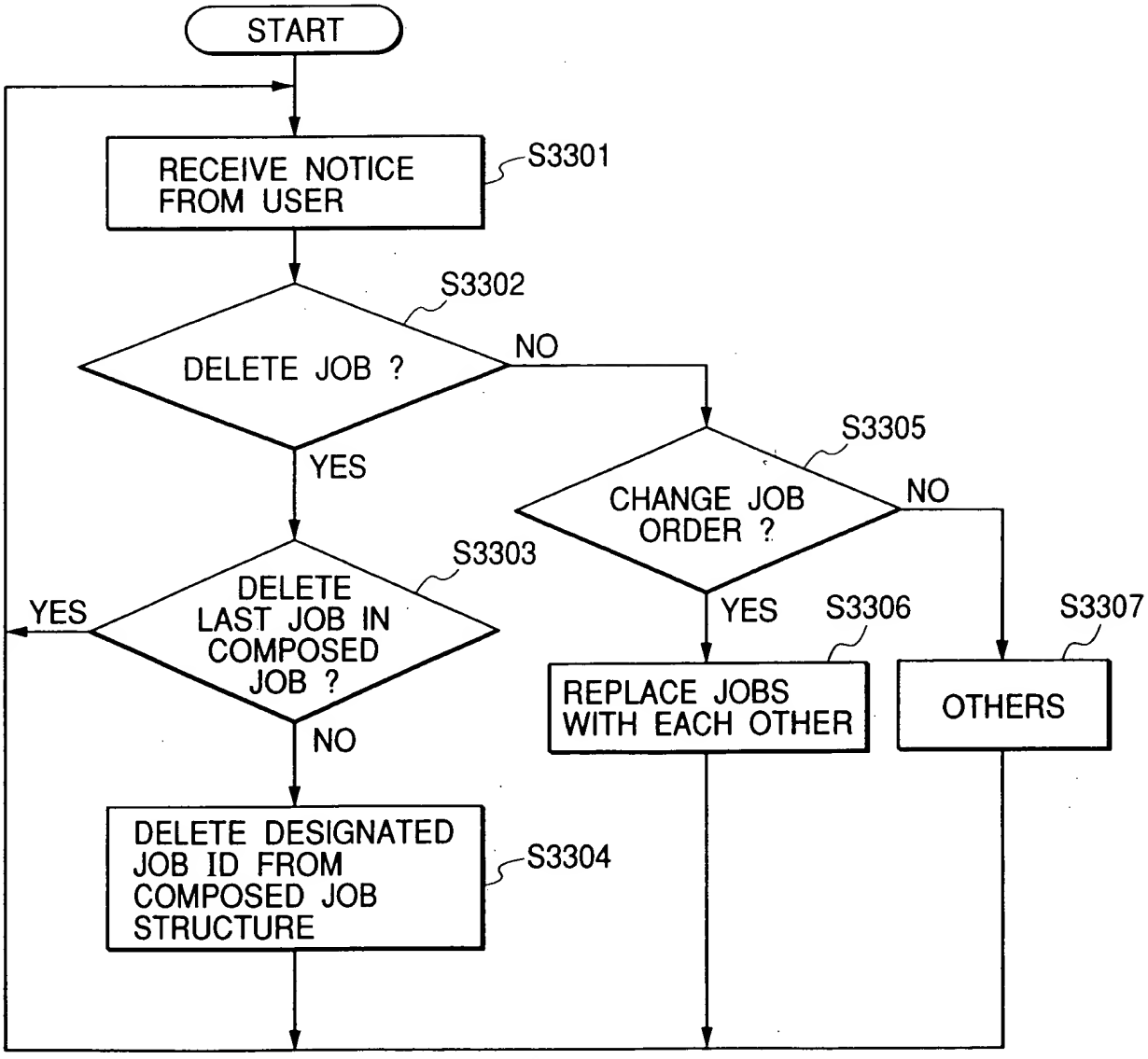

START
RECEIVE NOTICE FROM USER
S3301
DELETE JOB ?
S3302
NO
YES
CHANGE JOB ORDER ?
S3305
NO
YES
DELETE LAST JOB IN COMPOSED JOB ?
S3303
YES
NO
REPLACE JOBS WITH EACH OTHER
S3306
OTHERS
S3307
DELETE DESIGNATED JOB ID FROM COMPOSED JOB STRUCTURE
S3304

FIG. 34

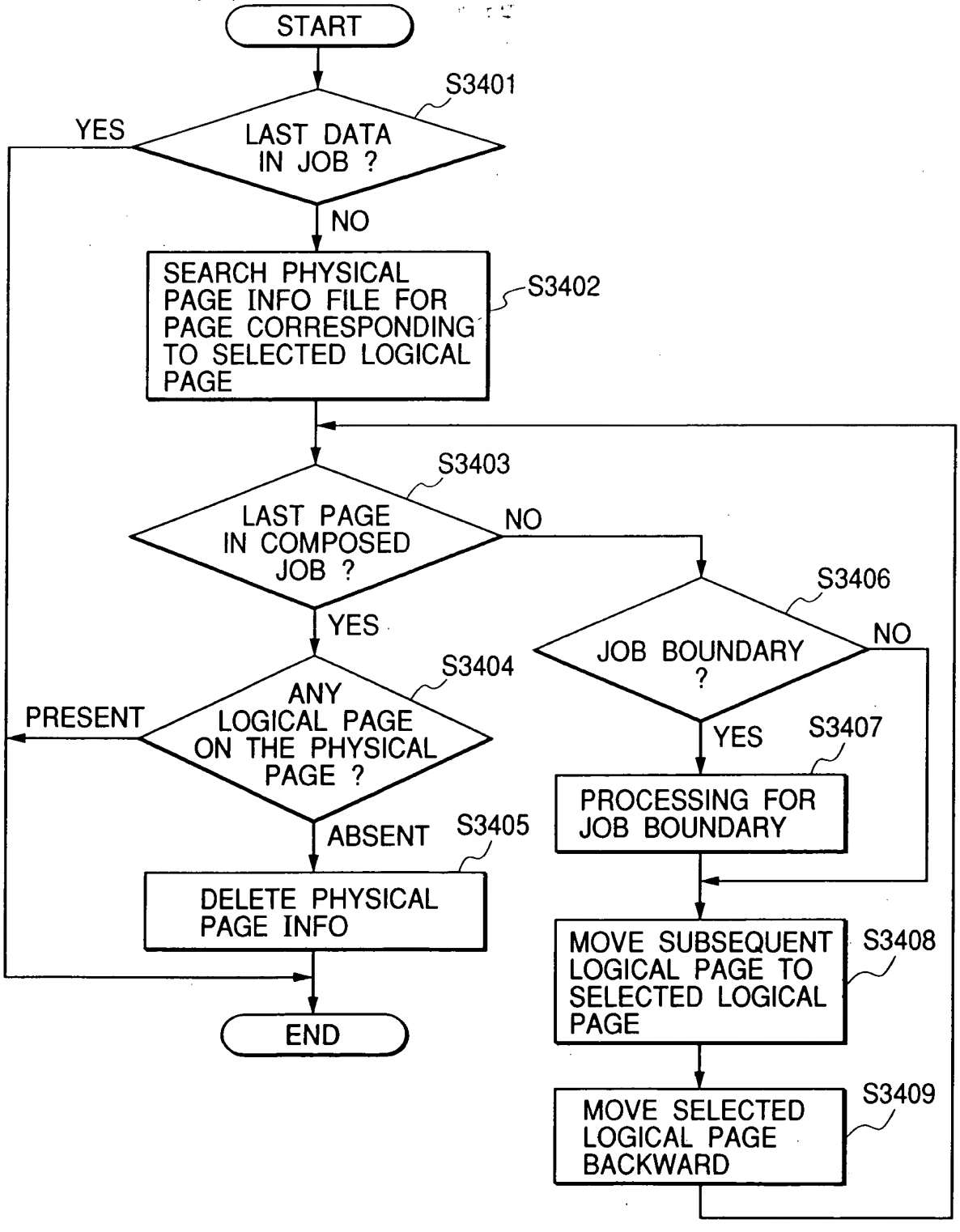
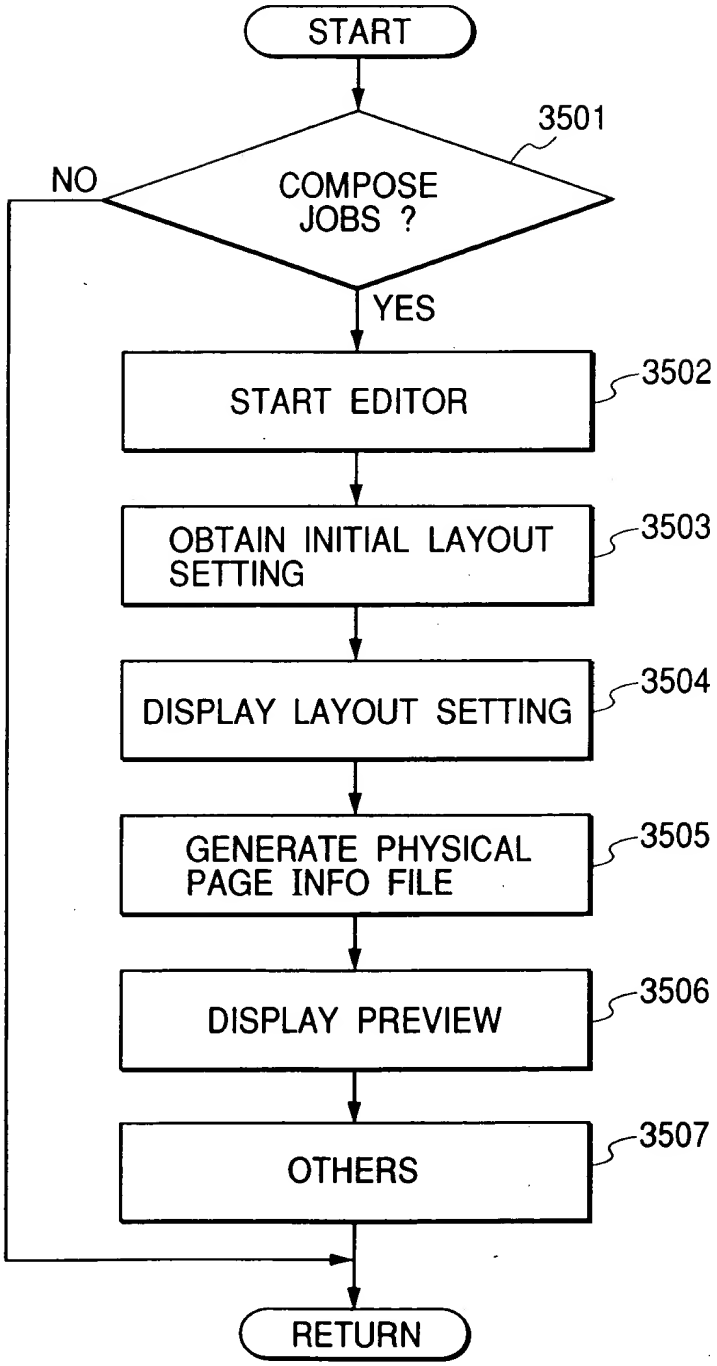

START
S3401
LAST DATA IN JOB ?
YES
NO
SEARCH PHYSICAL PAGE INFO FILE FOR PAGE CORRESPONDING TO SELECTED LOGICAL PAGE
S3402
S3403
LAST PAGE IN COMPOSED JOB ?
NO
YES
S3404
ANY LOGICAL PAGE ON THE PHYSICAL PAGE ?
PRESENT
ABSENT
S3405
DELETE PHYSICAL PAGE INFO
END
S3406
JOB BOUNDARY ?
NO
YES
S3407
PROCESSING FOR JOB BOUNDARY
MOVE SUBSEQUENT LOGICAL PAGE TO SELECTED LOGICAL PAGE
S3408
MOVE SELECTED LOGICAL PAGE BACKWARD
S3409

FIG. 35




EP 1 037 456 A2

FIG. 36

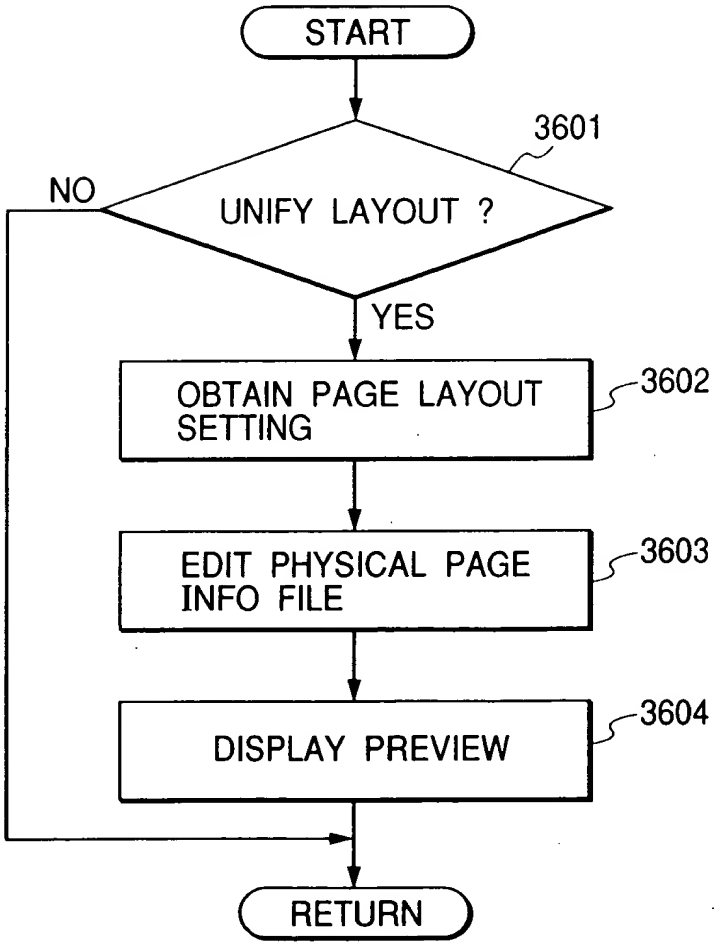

START
3601
NO
UNIFY LAYOUT ?
YES
OBTAIN PAGE LAYOUT SETTING
3602
EDIT PHYSICAL PAGE INFO FILE
3603
DISPLAY PREVIEW
3604
RETURN

FIG. 37

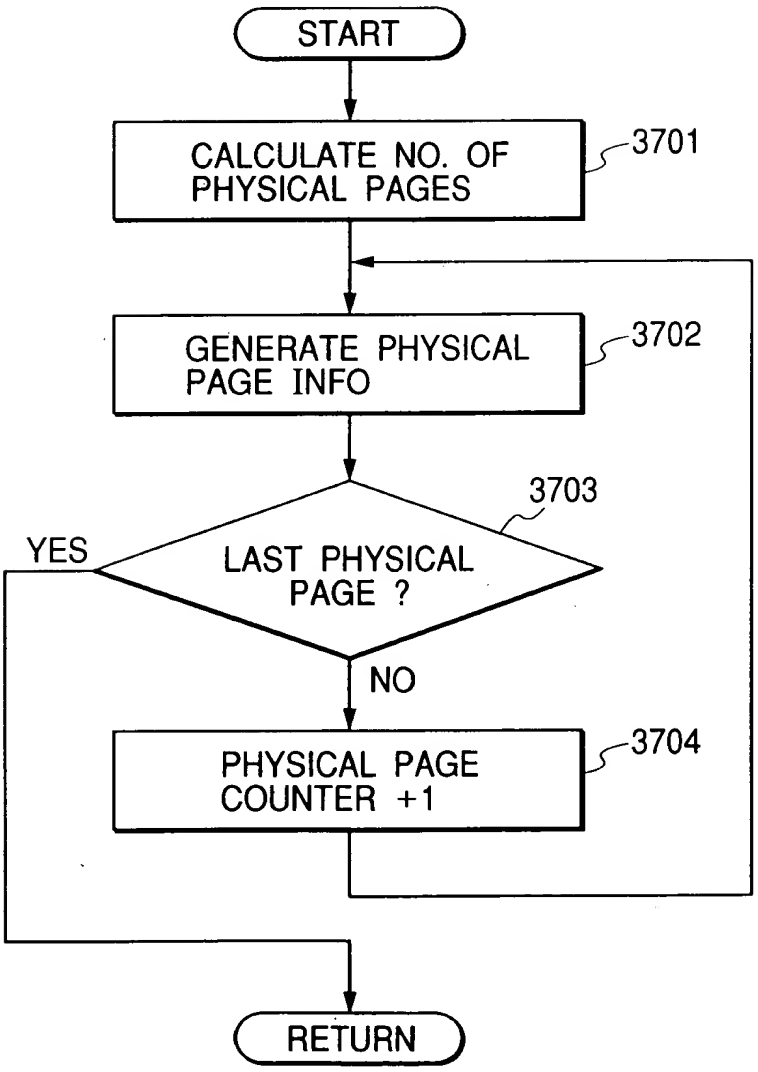

START
CALCULATE NO. OF PHYSICAL PAGES
3701
GENERATE PHYSICAL PAGE INFO
3702
3703
LAST PHYSICAL PAGE ?
YES
NO
PHYSICAL PAGE COUNTER +1
3704
RETURN

FIG. 38

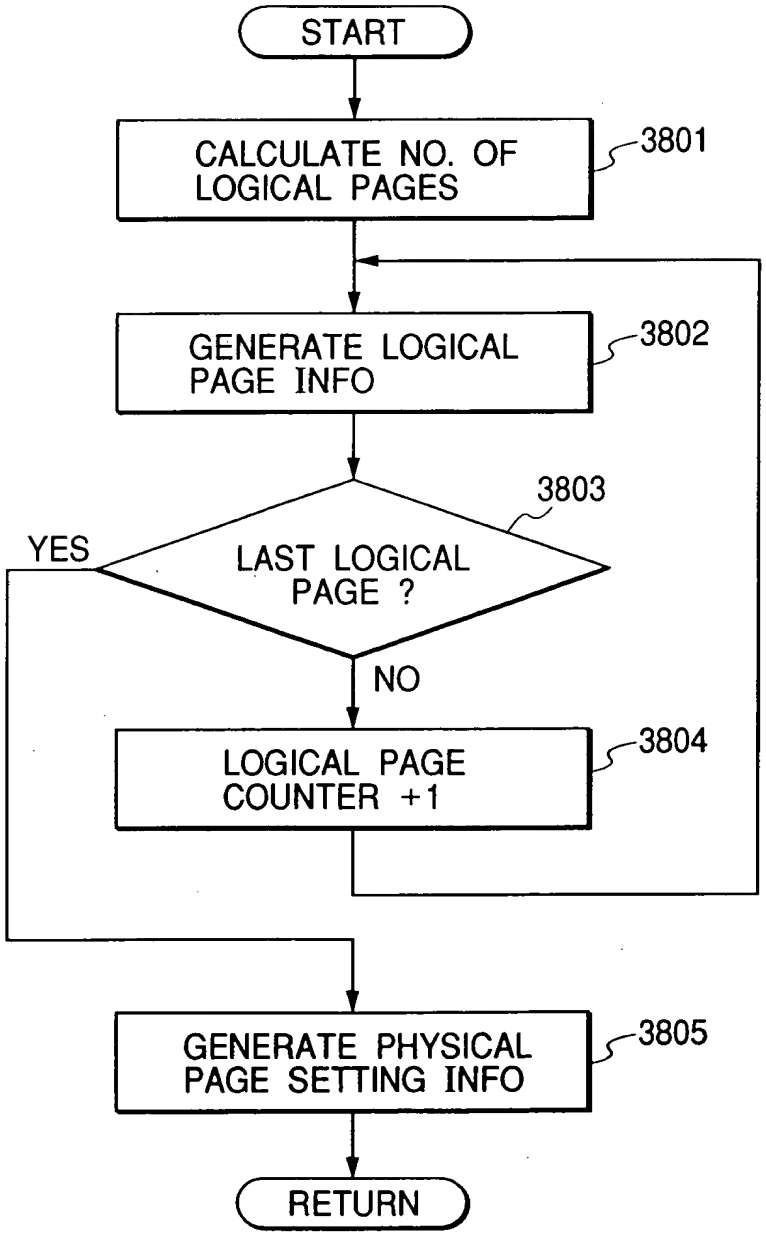
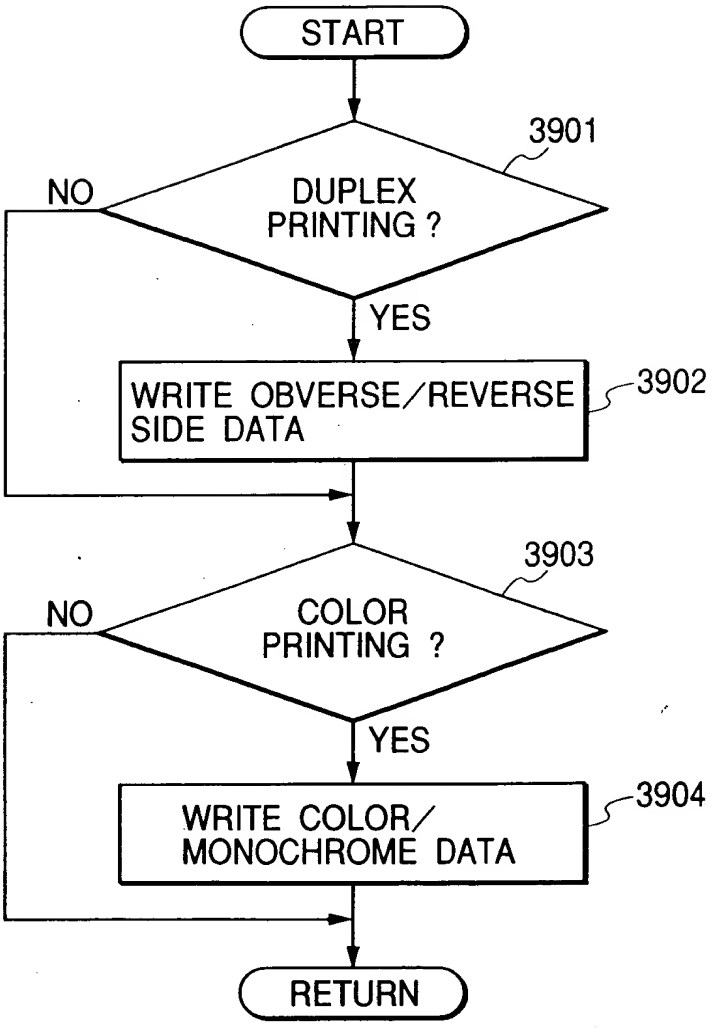

START
CALCULATE NO. OF LOGICAL PAGES
3801
GENERATE LOGICAL PAGE INFO
3802
3803
LAST LOGICAL PAGE ?
YES
NO
LOGICAL PAGE COUNTER +1
3804
GENERATE PHYSICAL PAGE SETTING INFO
3805
RETURN

FIG. 39


START
3901
NO
DUPLEX PRINTING ?
YES
WRITE OBVERSE/REVERSE SIDE DATA
3902
3903
NO
COLOR PRINTING ?
YES
WRITE COLOR/ MONOCHROME DATA
3904
RETURN

0050' 68E6950

FIG. 40

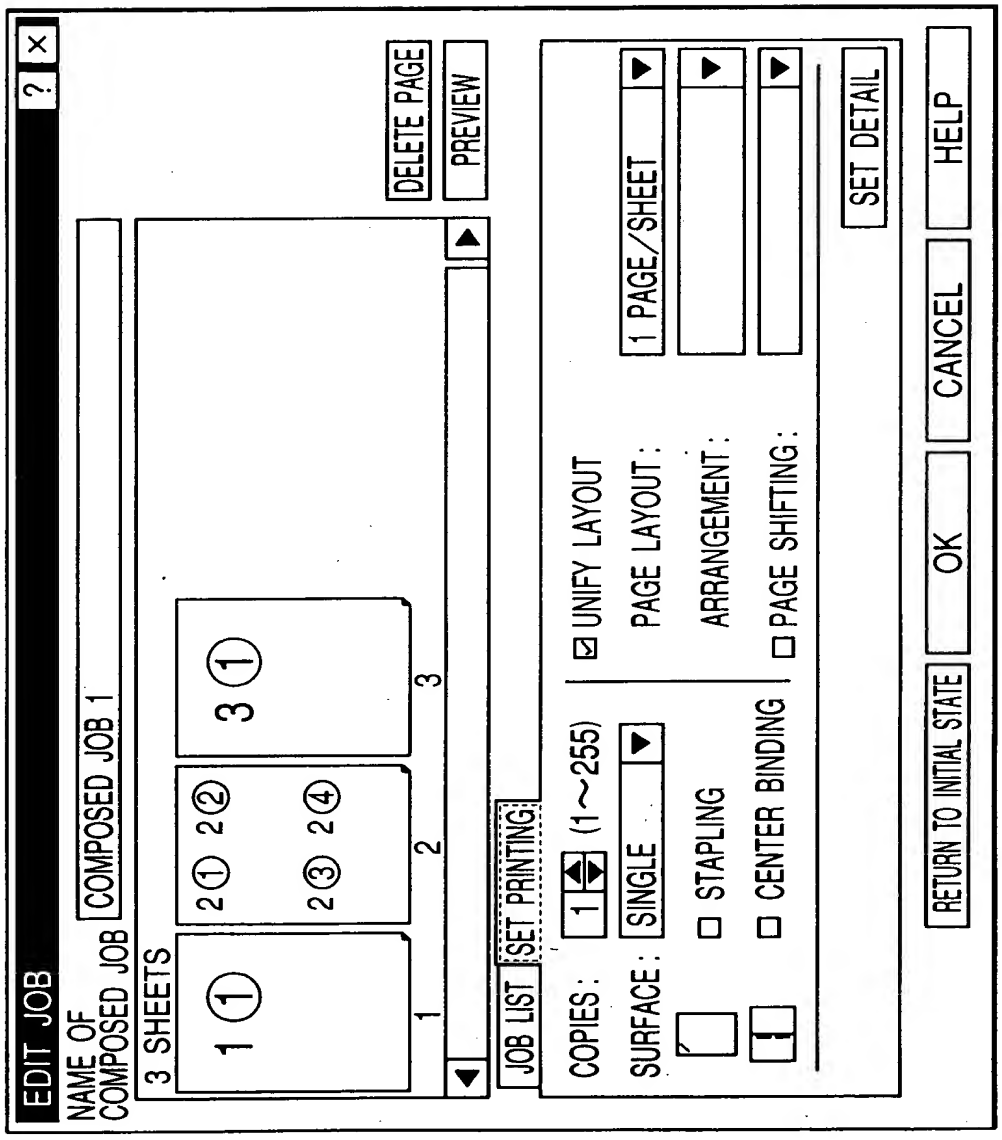
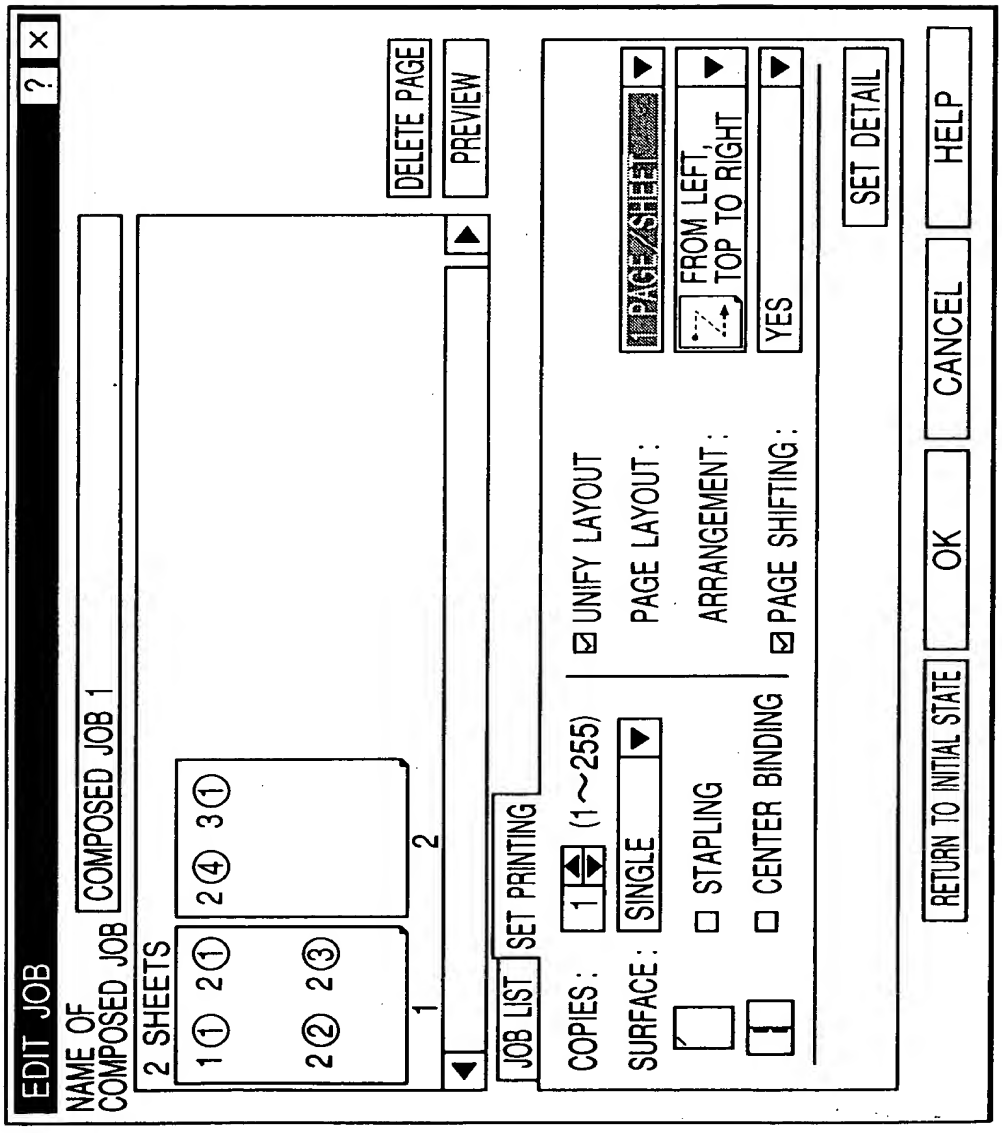


FIG. 41


EDIT JOB
NAME OF COMPOSED JOB
COMPOSED JOB 1
2 SHEETS
1① 2①
2② 2③
2④ 3①
1
2
DELETE PAGE
PREVIEW
JOB LIST
SET PRINTING
COPIES:
1
(1～255)
SURFACE:
SINGLE
STAPLING
CENTER BINDING
UNIFY LAYOUT
PAGE LAYOUT:
PAGE/SHEET
ARRANGEMENT:
FROM LEFT, TOP TO RIGHT
PAGE SHIFTING:
YES
SET DETAIL
RETURN TO INITIAL STATE
OK
CANCEL
HELP